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## ORIGINAL ARTICLES.

### AN EPIDEMIC OF TYPHOID FEVER AT PLYMOUTH, PA.

(*SECOND PAPER.*)

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FOLLOWING the writing of my first article on the subject of the Plymouth epidemic, on May 9, which was published in THE MEDICAL NEWS of May 16, Dr. J. L. Miner and myself continued the investigation of the subject thoroughly for several days, and these additional observations were embodied in a more extended essay which was read before the Luzerne County Medical Society, on May 21, and subsequently before the Pennsylvania State Medical Society at Scranton.

While finding many points of interest confirmative of the opinion expressed in my previous paper, I have found nothing which throws any doubt upon the conclusions reached at that time. It has seemed to me that an abstract of my completed paper, containing some additional facts and points of interest might be acceptable to readers of THE NEWS, especially since a few gentlemen of our profession have seemed to doubt the possibility of the epidemic arising from water polluted by the excreta of a single typhoid patient.

The first post-mortem examination was secured by Drs. Davis and Beckwith only after urgent solicitation, the people being singularly averse to any such examinations, notwithstanding that many cases had already died. This autopsy was conducted by Dr. E. O. Shakespeare, of Philadelphia, on May 10, in the presence of several physicians from Wilkesbarre and Plymouth. Two other examinations were made on the following day by Drs. Shakespeare and French, and in every case the characteristic lesion of Peyer's glands was found. If doubt as to the diagnosis lingered in the minds of any, it was finally dissipated when these autopsies showed the disease to be genuine typhoid fever.

Of the various causes suggested as productive of the epidemic, the filth theory soon fell to the ground, because,

1. Plymouth is not in worse sanitary condition than neighboring towns where the disease does not prevail.

2. Its sanitary condition was not worse at this particular time than on proceding years.

3. All parts of the town were affected, the clean as well as the filthy.

4. It is admitted by common consent that filth *per se* does not cause typhoid fever. The emanations therefrom may so prepare the system, or, figuratively speaking, so till the ground that when the proper seed is sown an abundant harvest may be the result.

Whether typhoid fever may be communicated directly through the air or not, is still a mooted question, but it is generally admitted that in a large majority of cases, at least, the poison is conveyed to the system by means of polluted food and drink taken directly into the stomach.

The inhabitants of Plymouth receive their drinking water either directly from private wells, or from hydrants under control of the Plymouth Water Company. Knowing the history of many epidemics of typhoid fever, and knowing the facility with which wells become contaminated from carelessly located privies, the thought of well-water contamination naturally presented itself to many. That this was not the case was clearly shown by some very interesting facts.

Near the extreme southern end of Plymouth, upon the banks of Coal Street Creek, a house was found in which hydrant water is used, and in this house two persons were sick with the disease, while in another, situated but sixty feet away and supplied with well water, all the inmates are and have been free from the disease. A little further to the north of these two houses there are found, on Temperance Hill, eleven families using well water, and no case of typhoid fever has yet appeared in any of these families.

On the upper side of Lee Street almost every family using hydrant water is affected, while those living on the lower side of the same street are all supplied with well water and none of them are sick. Upon Welsh Hill, a community of several hundred persons was found supplied exclusively with well water. There were upon the day of our investigation, but six persons sick on this hill, and these all were persons who had been working in Plymouth in the daytime and were accustomed, a part of the time, to drink water from the hydrants.

The same relative condition exists in other parts of the town, the investigation of numerous cases showing that persons who used well water in general and are suffering from the disease, are those who had been in the habit of drinking hydrant water while away from their homes, while those who use well water exclusively are not attacked. It is thus shown conclusively, we think, that well water as a factor in the causation of this epidemic must be excluded.

Inasmuch as the disease is found wherever hydrant water is used, and *only* there, the conclusion is irresistible that this was the chief and only cause of this most remarkable outbreak. The hydrants receive their supply from two sources. During the greater part of the year it is from a mountain stream of great purity, which is distributed through the various streets by pipes running from the lower or first of four successive reservoirs, formed by huge dams of

masonry across the stream. Occasionally, however, when the water in this stream is quite low, the pipes are supplied with water pumped directly into the mains from the Susquehanna River. This was the case from March 20th, at noon, to March 26th, in the evening, of the present year.

Here then are, apparently, two possible sources of contagion, and it is evident that the cause of the epidemic must be traced either to the water pumped from the Susquehanna, or to that supplied by the mountain stream.

*Why not the river water?* In considering this question we must not forget the exact time the river water was used, March 20th to March 26th, and the relation of this time to the outbreak of the epidemic. From replies to a circular sent to the physicians of Plymouth, I find that the outbreak occurred about April 10th to 12th, there being one case reported as early as April 9th. A large increase occurred after April 15th. The gentleman who saw his first case April 9th, saw but thirteen more in the next five days, while another who saw his first case April 14th, saw seventy-five new cases in the five succeeding days.

The length of the period of incubation in typhoid fever varies, but it is usually stated as being from ten to fourteen days. Dr. Stillé states fourteen days. Liebermeister says three weeks—*i. e.*, counting to the time the patient is thoroughly ill with the fever, though he says in many cases the period seems to be but seven days. Wilson, in his treatise on *Continued Fevers*, gives the average period as fourteen days, though he cites numerous cases to show that exceptionally it may be as short as five, three, or even two days, while very exceptionally it may be as long as four weeks. He mentions one particularly interesting epidemic in which a number of persons on a certain day visited a neighboring town, and while there drank from a well polluted with excreta from a typhoid fever patient. Of these, fourteen were attacked who drank from the same well at the same time, and their cases showed a range in the period of incubation from eight to eighteen days.

Dr. Thomas Watson cites the following interesting cases:

"In North Taunton, A. and B. lodged next door to a house in which typhoid fever existed. The two houses had a common privy. Both of these men took the disease, and becoming too ill to work, returned to their respective homes in the parish of Morchard, seven miles off. A. at once took to bed. Ten days after, his two children were laid up with the same disease, and had it severely. B., a single man, lodged with two aged persons. When at his worst a friend C., who called, was asked to assist in raising him in bed, and was overpowered by the smell. Ten days after, in another part of the city, C. was also down with the fever."

Trousseau cites cases to show that the period of incubation is eight days. All of the authorities that I have consulted admit that many cases, at least, may appear in ten days from the time of contagion, while others may require a much longer time.

But, suppose we admit from two to three weeks as a proper *average* period of incubation, instead of from ten to fourteen days, as is claimed by many, we should nevertheless, naturally expect *some* cases to arise in ten days from the time of infection. If then it be from drinking Susquehanna water, we should look for some cases of the fever as early as March 30, or ten days from the time the pumping of river water began; but no such cases appear, nor do they appear within ten days after the pumping ceased—*i.e.*, within ten days of March 26. Inasmuch as no outbreak occurred previous to April 10, we would infer that the poison was not taken previous to the last days of March or the first days of April; in other words, not until several days after the use of river water ceased.

Whether decomposing sewage in drinking water will produce typhoid fever without the dejecta of a typhoid patient being present is still an open question. Dr. Downs, reported in *The Lancet*, and quoted by Parkes, records six cases of typhoid as the result of the overflow of non-typhoid sewage into a well. On the other hand cases recorded by Allbut and Wohlrab, show that contaminated water may be used for a long time without causing typhoid fever, then persons affected with the fever enter the place, and their dejecta pass into the water causing an outbreak of typhoid fever.

In an admirable article read by Dr. E. G. Janeway, before the New York Medical Society, February 18, 1884, and in the discussion which followed, the prevalence of opinion seems to be that the disease does not arise *de novo*, but is spread only by contamination from previous cases of typhoid.

An extremely strong case is quoted by Ballard:

"Very polluted water had been used for years by the inhabitants of Muncy without causing fever, when a person with typhoid came from a distance to the village, and the excreta from this person were washed into the stream supplying the village. Between June and October, 1872, no less than 76 cases occurred out of a population of 832 persons. All of those attacked drank the stream water habitually or occasionally. All who used rain or well-water escaped except one family, who used the water of a well only four or five yards from the brook. The case seems quite clear: first, that the water caused the disease; and, secondly, that though the water polluted with excreta had been used for years, no enteric fever appeared until an imported case introduced the virus."

He further says:

"Positive evidence of this kind seems conclusive, and we may now safely assume that the presence of typhoid evacuations in the water is necessary. Common fecal matter may produce diarrhœa, which may be febrile, but for the production of enteric fever the specific agent must be present."

If this argument be true, then river water polluted with the sewage of a large city free from typhoid is less dangerous than a smaller amount of water containing the specific poison.

All of us, no doubt, have seen cases of this disease which defied all our efforts at discovering their source. I call to mind one special case under my care last autumn. The patient was a lad of fourteen years, in a house remarkable for neatness and cleanliness, nor did the most digilent search reveal any difficulty whatever with the water-pipes or the sewer discharges. No other member of the family, consisting of seven, was afflicted.

The sewers of Troy all empty into the Hudson, and Albany, which is six miles lower down, derives its water from the river after this sewage has been poured into it. The borough of Nanticoke, situated a few miles below Plymouth, receives all of its hydrant water from the Su-quehanna, but at no time has it suffered from a serious outbreak of typhoid fever, notwithstanding the water there used must be contaminated by the sewage from populous towns and cities above. In fact, it is proven that Nanticoke had fewer cases of typhoid during March and April than in any other months of the past year. It is well known, however, that typhoid fever is frequently found in Wilkesbarre, three miles above Plymouth, and might not the Susquehanna become polluted with the specific poison at this place?

A careful report from thirty-one physicians in Wilkesbarre (I failed in my efforts to get reports from two of our physicians), shows that they had under their care between January 1 and April 1 of the present year, twenty six typhoid fever cases. Of all this number only two were in houses connected with the sewers, and thus in all this time there were the excreta of only two typhoid patients poured into the Susquehanna at Wilkesbarre, and in both of these cases disinfectants were used to neutralize the poison.

The flow of the Susquehanna at Wilkesbarre at low water mark, as taken from the Government survey, is 930 cubic feet per second, showing that the dilution of this poison would be, at least, at the rate of 602,604,000 gallons per day, and the danger from this source would thus be almost infinitesimal.

But there might be pollution nearer to Plymouth than the cases mentioned above. Dr. C. W. Spand, a medical friend, in answer to certain inquiries, gives me the following:

"In the summer of 1884, typhoid fever broke out in Whitewash Hollow, a small valley that runs from No. 2 to No. 4 breakers and up to the Boston slope just below Larksville. In nearly every house from No. 2 to No. 4 breaker, one or more members were down with it up to March of this year. The snow melted in that locality during the latter week of March very rapidly, filled the creek with running water, and as the people were indifferent as to what was done with the excreta, it was carried down said stream into the river below Boston Hill, just above Plymouth, and in my opinion the fever sprang from the germs that were carried down into the river from Whitewash Hollow."

Now, at first blush, this might seem a point for consideration; but that it could have had no effect whatever in causing this epidemic, may be shown from the following statements:

First, this stream joins the Susquehanna at the upper end of Plymouth, and any one taking the trouble to examine it will find that it remains a distinct stream flowing close to the right bank of the river for a long distance, and does not readily mingle with the general current. The Plymouth Water Company, however, took their supply two hundred and fifty feet from shore.

Second, there is but very little sewage carried by this stream at any time, as but few houses are situated directly upon its banks.

Third, whatever this stream might contain, it did not, by any possible chance, empty any surface water into the Susquehanna in March previous to the 26th, much less previous to the 20th, for the temperature during the greater part of March was far below the freezing point, thus preventing any thaw of any consequence at this time. As is well known, March was the coldest month of the past winter. On March 20th, the maximum temperature was 20° F.; March 21st, 20.1°; March 22d, 20.1°; March 23d, 23.2°; March 24th, 35.6°; March 25th, 34.8°; March 26th, 46.5°. So it will be seen that there was no day previous to March 26th, that it would be possible for any considerable thaw to take place.[1] If further confirmation of the opinion already expressed, that the river water had nothing whatever to do in causing this epidemic, be needed, it may be found in the statement of a few additional facts and in the history of some very interesting cases.

It must be borne in mind that the river water used between March 20th and 26th, was not pumped into the reservoir and thence distributed to the town, but was pumped directly into the pipes as already stated, and chiefly devoted to supplying the mines and that part of the town bordering on the river, *i. e.*, Main Street, and this part was thus supplied during the whole of the time of pumping; while the valves were all closed in the pipes leading from the Main Street pipe to the upper or back part of the town, and this latter part was thus supplied chiefly with water from the reservoirs. But should work at the mines be stopped during any of this time, it would be possible for some of the water pumped from the river to force its way into the bottom of the first reservoir and thus be distributed throughout the town, and it is without doubt true that the back streets were thus supplied with some river water for, at least, two days of this time. It is a notable fact, however, that typhoid fever is not more prevalent, but really less so, in the part supplied with river water during the whole of this time, than in the parts supplied chiefly with mountain water. But all river water in use, I am informed by the Superintendent, would pass out of the pipes in six hours after the pumping ceased, and it thus could not have been used later than March 27th. If, then, the pumping of river water ceased on the evening of March 26th, persons moving to Plymouth after the following day could not possibly have drunk such water from the hydrants.

The following cases seem to bear directly upon this point:

CASE I.—Mrs. J. K. came to Plymouth from Afton, Wisconsin, and arrived March 30th, four days after river water was in use. She was taken sick April 18th, though she had been feeling unwell for several days previously. She is now, May 21st, convalescent from a severe attack of typhoid fever.

CASE II.—Mr. M. F., patient of Dr. C. H. Wilson, had been working in Plymouth during the winter, but on April 1st moved his family from Ashley to Plymouth. Himself and two others of his

[1] For the above record of temperature I am indebted to the Rev. Dr. Hodge, of Wilkesbarre, who has charge of the Government meteorological observations at this place.

family, who had not been in Plymouth previous to April 1st, are now ill with the fever.

CASE III.—Miss McG., patient of Dr. F. L. McKee, moved to Plymouth from Sugar Notch, April 1st, and was taken sick with typhoid fever April 15th, though she had been complaining two or three days previously.

CASE IV.—Miss H., patient of Dr. Guthrie, went to Plymouth from Wilkesbarre on March 30th, and remained thirteen days. She returned to Wilkesbarre on April 12th feeling unwell, and was seriously ill with the disease by April 15th.

CASE V.—Miss A. came from New Jersey to Wilkesbarre in March. She visited Plymouth first on March 25th, remaining only from 10 A. M. to 3 P. M. She went again on March 27th, remaining about ten days; was taken sick on April 18th, and has been seriously ill ever since.

CASE VI.—Mrs. C , patient of Dr. Guthrie, visited Plymouth first from March 21st to March 24th. Again on March 31st, and April 1st. Again from April 17th to 21st. She was taken sick on April 22d. If she became infected between March 21st and 24th, the period of incubation would be one month, which all admit is highly improbable. If, however, she drank contaminated water on April 1st, the period of incubation in her case would be twenty-one days, or the time claimed by Liebermeister as necessary.

CASE VII.—R. B., patient of Dr. Spencer, of Dallas, visited Plymouth early in April about the 5th. He drank water at a barber shop, and also at a livery stable, was taken sick April 15th, and by April 18th had well-developed typhoid fever.

CASE VIII.—C. C., patient of Dr. Spencer, visited Plymouth about the last day of March to attend a funeral. He drank considerable water at a hotel, as he was very thirsty. He was ill with typhoid fever, and called the doctor on April 22, though he had been ailing nearly a week.

CASE IX.—Mr. S. moved his family to Plymouth on March 30th, though he had previously been working there. He was taken ill about April 13th, and died on April 30th. His wife was taken ill on April 18th, and died on May 20th. Frank S. visited this family about April 9th, and later. He, too, was taken sick and died early in May.

CASE X.—Miss L. went to Plymouth with Case II., to assist the family for a few days. She remained a week or ten days, returned to her home in Ashley, and was soon after seriously ill with typhoid fever.

CASE XI.—Dr W., resident physician at German Hospital, in Philadelphia, visited Plymouth on April 1st, and drank of the water until April 4th, when he returned to Philadelphia. In a few days after his return he began to feel languid, and this feeling progressed gradually. On April 16th, he had a chill, and also on the two following days. April 18th, he took to bed and was seriously ill with typhoid fever for some weeks. The temperature on the 10th day was 105°, and continued from 104° to 105° for several days.

These all drank water in Plymouth, but did not drink river water. No doubt other similar cases exist, but they were not brought to the attention of the writer of this article.

Is there anything further needed to convince the most sceptical that the Plymouth epidemic was not caused by using river water? If so, here it is. In pursuing our investigation, we found at Ridge Row, a community of twenty families living in ten double houses, and at Broadway, a community of forty families in twenty double houses. These two places are in the upper end of Plymouth, and are entirely free from the fever. But all through the fall and winter, and even through the fatal month of March, they were supplied with water by the Delaware and Hudson Company, pumped directly from the deadly (?) Susquehanna, sixty feet from shore, and half a mile nearer to the Wilkesbarre sewers, than the point at which the pipes of the Plymouth Water Company enter the river. It is proper to state that at Broadway there are two wells, and at Ridge Row one spring and one well, and no doubt many, especially at Ridge Row, used spring water, but the majority of these sixty families used river water exclusively, and continued to do so until April, and, as above stated, no case of the fever has appeared among them.

The people of Plymouth have at various times used river water in previous years without causing outbreaks of typhoid fever. The pumps were used continuously in 1882, from October 27th to January 1st, a period of sixty-five days. Again from September 30, 1883, to February 1, 1884, 124 days, and again last autumn from July 30th to November 24th, a period of 118 days.

No such outbreak followed these pumpings. Can we be made to believe that the river water, which was comparatively innocuous to the people of Plymouth at one time for a period of 110 days, when typhoid fever was rife in the city just above, should in six days of the following March, cause an epidemic affecting more than one thousand people, and that at a time when it is proven that it was not contaminated by typhoid fever?

There remains then but one possible cause for this most serious and deplorable epidemic, and that is, contamination of the mountain stream supplying the Water Company's reservoirs.

The history of the case of typhoid fever upon the banks of this stream has already been given in my first paper and need not be dwelt upon in detail here. The dejecta passed at night were thrown out on the banks of the stream, while that passed during the day were emptied into a privy a little further back, the contents of which lie upon the surface of the ground. These dejecta were thrown out from time to time until the accumulation no doubt equalled the daily dejecta from many such patients. They remained innocuous upon the snow and frozen ground until some time between March 25 and April 1, when they were washed into the stream and into the third reservoir.

It should be remembered, that the maximum temperature on March 26 was 46.5°; March 27, 56°; March 28, 48°; March 29, 37°, increasing rapidly until April 4, when a temperature of 70° was reached. Also, that this house does not stand in a ravine or in a protected spot, but in the midst of an open clearing, which clearing would naturally feel the effects of the sun's rays, and part with its snow

and accumulated filth sooner than the more protected regions which also drain into this stream.

March 26, with a maximum temperature of 46.5°, is the first day upon which any considerable thaw could occur. Upon this evening the Superintendent of the Water Company visited the reservoirs to ascertain whether it would be allowable to discontinue the pumping of river water. He found the first and second reservoirs almost empty, while the third was filling rapidly, the short pipe which allows the water to discharge from the bottom of the third into the stream leading into the second reservoir being tightly frozen. He caused a fire to be built to melt the ice in this pipe and then stopped the river pumps. This water with the accumulated typhoid fever poison was discharged from the bottom of the third reservoir, ran down to the second, on to the first, and was thence distributed to the town, in all probability, between the 28th of March and the 4th or 5th of April.

When might we then expect the first cases from this cause to appear? Regarding the period of incubation as fourteen days, we would look for the first case to appear from April 10 to 15, with possibly a few exceptional cases somewhat earlier, while the majority would come somewhat later.

We do not presume to say that all of this poison passed out of the third reservoir in five days. No doubt some of it lingered and was operative in diminished strength for some time later, and this but explains more fully the lateness with which some cases of the disease appeared.

It seems to me that the simple statement of these facts as I have given them, without any warping or twisting to suit preconceived theories or desirable conclusions, is sufficient to explain fully the cause of this sad scene of desolation, and it points unmistakably to the polluted mountain stream as the chief and only cause of the present epidemic of typhoid fever in Plymouth.

As previously stated, our first investigation was made on May 6th; we examined carefully the whole length of the stream to some distance beyond the fourth reservoir, and reached unhesitatingly the conclusions already expressed in this paper. A few days later the same ground was gone over by Drs. Shakespeare and French, of Philadelphia, and in a preliminary report to the Philadelphia County Medical Society, on May 13th, they confirm *in toto* the report mentioned in my first article. Among other remarks they gave the following:

"During the period of pumping from the Susquehanna the water in that river was lower than it had been at any time for years, and the surface was frozen tight. The city of Wilkesbarre, containing 30,000 inhabitants, delivers its sewage directly into the Susquehanna, the mouth of the lower sewer emptying only two miles above the Plymouth pumping station, while the current is very rapid between the two towns. The water is further contaminated by refuse water from five or six mines, as well as by the garbage from the abattoirs at Wilkesbarre. *Notwithstanding this unusually filthy condition of the Susquehanna water, it is beyond question entirely innocent of causing the epidemic, for the following and other reasons."

They then go on to state certain facts already presented in this paper, and conclude as follows: "No other conclusion can be arrived at than that this infective poison existed in the mountain water, and originated from the one case of fever in the house on the side of the stream."[1]

From some unaccountable reason this plain statement was misquoted in the morning papers, and it was made to appear that the gentlemen above mentioned had expressed themselves in favor of the river water theory. This called forth a denial from these gentlemen, and at the meeting of the Citizens' Committee, in Philadelphia, the next day, the following statement from Drs. French and Shakespeare was read:

"We observe that, in some reports of our opinion of the origin and spread of the epidemic at Plymouth, we are quoted as expressing the belief that the Susquehanna water, containing the sewage of Wilkesbarre, caused the disease. This is quite contradicted by the facts which we were able to collect, and is just the opposite to our belief, based upon our investigations. We are of the opinion that the Susquehanna water had nothing to do with the outbreak of the epidemic, but that, on the contrary, those portions of the town which were less supplied with mountain water, and more supplied with Susquehanna water, have suffered the least."

A few days later a third thorough investigation was made by Drs. Taylor and Edson, of the New York Health Department, and Chemist Martin of the Columbia School of Mines.

Their report[2] has not yet been published, but they expressed themselves as decidedly of the opinion that the epidemic was due to the polluted mountain water. They found one or two cases of the disease in families supplied with milk from neighboring families where the disease existed, but as these had also drunk the hydrant water it was impossible to tell from which source the infection came.

A fourth thorough investigation was made by a Committee from the Buffalo Board of Health, Dr. A. H. Briggs being Chairman. After a statement of the history of the epidemic, etc., they conclude as follows:

"From the above facts we drew the conclusion that this epidemic owes its origin to the solitary case in the Davis family. The excrement thrown on the slope un-

[1] Since writing the above, the report of Drs. Shakespeare and French has been published in full in pamphlet form, with an appendix containing valuable sanitary rules for the people, in relation to stamping out the epidemic.

[2] An abstract of the New York Committee's report appeared in the *New York Tribune* on May 28. They state the same facts as given in this paper, and reach the same conclusions. They also say: "The Water Company has four storage reservoirs in a ravine extending to the top of the Shawnee Mountain, overlooking the town. These reservoirs have a capacity of about 10,000,000 gallons. They are fed by mountain springs and an artesian well, 1950 feet in depth. In the extreme cold weather of last winter the people let the water run day and night to keep the pipes from freezing All the water stored in the four reservoirs was exhausted on March 20, the springs in the mountain having dried up. For a week water was pumped from the river, but the people disliked to use it, believing that the river was contaminated by sewage from Wilkesbarre, three miles above. Water from the mountain reservoirs was used again on March 27. It is now believed that if the river water had been used a few weeks longer, the great epidemic would not have occurred."

doubtedly contaminated the water of the entire brook. It is a notable fact that those using water from springs and from the Susquehanna River have been largely exempt from the scourge."

In fact, the same conclusions have been reached by everybody who has made any investigation of the matter. The opposition has come from persons who have not visited the ground, but who have written from the privacy of their offices upon the supposed possible origin of epidemics. Now, it is not the province of this report to discuss the cause of possible epidemics, or of epidemics of typhoid fever in general, but to state as clearly as may be the cause of the present epidemic in Plymouth. It is true that polluted well water may cause sickness, but it did not cause this epidemic. It is true that polluted milk may cause sickness, but it did not cause this epidemic. It is true that polluted river water may cause sickness, but it did not cause this epidemic.

I trust I may not be misunderstood in this matter, nor be quoted in any way as favoring the use of river water for drinking purposes, especially of river water contaminated by sewage. The subject is not a pleasant one to contemplate, and it should ever be condemned by us, and ever severely condemned. The constantly increasing amount of sewage poured into the Susquehanna at Wilkesbarre and neighboring towns will ever render this a dangerous source of supply to the people of Plymouth. But even river water contaminated with sewage without the specific typhoid fever poison, is not so dangerous as reservoir water contaminated by such specific poison. I would say further, that the river water used in Plymouth from March 20 to March 26, in my opinion, had nothing whatever to do with the causation of the present epidemic, except, possibly, indirectly by rendering the system more susceptible to the poison that subsequently followed. Had river water alone been used at this time there would possibly have been the usual number of isolated cases that any year may show in Plymouth, but there would have been no serious epidemic had it not been for the excreta thus carelessly thrown out upon the ground, and later washed into the stream.

In considering the possibility of one patient poisoning a thousand in Plymouth, we must bear in mind all the attending circumstances.

1. The accumulation of weeks, equalling the dejecta of many patients.

2. The nearness to the stream.

3. The sudden thaw pouring the surface water into the empty reservoir.

4. The concentration of the poison in a small amount of water.

5. The short distance to the town, and finally the possible previous preparation of the soil for the reception of this seed, which sprang at once into vigorous growth, and ripened for an abundant harvest of death.

The condition of affairs in Plymouth, but a short time back, was sad in all its features, but it nevertheless contained many points of interest to medical men. We had in this epidemic all the features presented that were necessary to a complete study of typhoid fever. Here are the regular typical cases, together with the many varieties, or seemingly exceptional cases. Here are the three classes so graphically described in Reynolds's *System of Medicine.*

The *first class*, with its insidious, gradual approach, moist, tolerably clean tongue, cool, pallid skin without eruption, and later presenting the more serious typhoid symptoms, ending too often, when least expected, in death.

The *second class*, with its more sudden approach, moist, but furred tongue, high fever, etc.

The *third class*, with dry, glazed tongue, intense heat of head, acute delirium, frequent vomiting and purging, painful abdomen, etc. All these have been present.

This epidemic, as already mentioned, has been widespread, and, from careful inquiry, I find no occasion to change the statement made in THE MEDICAL NEWS, under date of May 9th, that in Plymouth and its immediate outskirts there have been rather more than one thousand cases. The death-roll thus far has reached nearly one hundred. It must not be supposed that everybody sick in Plymouth is down with typhoid fever. There are, undoubtedly, many ill with other diseases, and, undoubtedly, many ill with fever not distinctly typhoid. Many new cases will probably arise from secondary infection, as gross carelessness has existed among the people in regard to disposing of the dejecta, and even physicians themselves have not exercised that care which the urgency of the case demanded. Especially are the wells upon the hillsides liable to contamination from carelessly disposed excreta.

It is one of the most remarkable epidemics in the history of typhoid fever, and teaches us some important lessons at fearful cost. These have already been sketched in my previous paper, and need not be rehearsed in this.

Another lesson taught by this history comes more nearly home to us all. The water companies throughout our land should be taught that they must furnish us the water, for which we pay, from the best sources that the country affords. Not only should they avoid the use of river water contaminated by sewage, but they should be compelled to remove from the banks of their streams and reservoirs not only all probable, but all possible, sources of pollution.

Shall we, too, wait for a similar sad experience brought to our own doors to teach us the lesson; or shall we not rather, by being forewarned, be, also, forearmed?

In gathering material for this essay I have been especially indebted to my friend, Dr. J. L. Miner, who has been my associate throughout the investigation. Also to Mr. O. M. Lance, Superintendent of the Plymouth Water Company; to Mr. Delbert Barney, student of medicine, and to the physicians of Plymouth and elsewhere who have so kindly answered my inquiries and assisted in gathering facts relative to the epidemic.

WILKES-BARRE, June 13, 1885.

## DISINFECTANTS.

### PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

### XII.

### EXPERIMENTS WITH SULPHUROUS ACID GAS.

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THE following experiment was made in Brooklyn, at the request of the Commissioner of Health, with the object of determining the germicide value of sulphurous acid gas, produced by the burning of sulphur in the manner recommended by boards of health generally. Dr. George M. Sternberg, U.S.A., kindly proffered his services, and conducted the inoculation with material prepared by him at the John Hopkins University. The methods employed were the same as he has employed in similar experiments, and which he has repeatedly described. Dr. W. E. Griffiths, of Brooklyn, and the reporter, assisted in the experiment.

The room selected was on the second floor of a private residence, and connected with it was a small clothes closet. Two doors opened out from it, one into the hall; the other into an adjoining room. The experimental room had a single window. All cracks and crevices, by which fumes could escape, were carefully closed by cotton. In the room were the following articles: A carpet on the floor; a wooden bedstead with springs, on which were two mattresses in close contact; a chair, over which was spread a bed-quilt; a sofa; an empty stand of drawers, on the top of which was placed a large book; the closet was empty. The room and closet together contained, as nearly as could be ascertained, 1850 cubic feet of air space, and were in free communication.

On the 18th of April, pieces of blanket, about four inches square, soaked with blood from a rabbit, killed while affected with septicæmia, and other similar pieces soaked with blood from another rabbit affected with anthrax, were exposed in different parts of the room, as hereafter described. Some of these pieces were folded double, with the blood inside the fold; others were left unfolded.

Piece No. 1, soaked with septicæmic blood, unfolded, was placed on the floor of the closet.

No. 2, septicæmic blood, unfolded, was pinned to the upper part of the window frame, eight feet from the floor.

No. 3, septicæmic blood, folded, was attached to frame of closet door, seven feet from floor.

No. 4, septicæmic blood, unfolded, was placed between the mattresses, which were in close contact.

No. 5, septicæmic blood, unfolded, pinned to the underside of the bed-quilt, which was spread over the chair.

No. 6, anthrax blood, unfolded, placed on the closet floor.

No. 7, anthrax blood, folded, attached to frame of closet floor, seven feet from the floor.

No. 8, anthrax blood, unfolded, placed between the lower mattress and springs.

No. 9, anthrax blood, unfolded, attached to frame of the door leading into the adjoining room, six feet from the floor.

No. 10, anthrax blood, unfolded, placed between the mattresses.

No. 11, anthrax blood, unfolded, placed under the carpet, eight inches from the edge; the carpet again laid down, but not tacked.

No. 12, anthrax blood, unfolded, placed in the middle of the book, between the leaves, the book being closed.

No. 13 was a piece of blanket soaked with anthrax blood, which was not exposed in the room, but was prepared for purposes of comparison.

No. 14 was another piece soaked with septicæmic blood, and also not exposed.

Two half-quills of fresh bovine vaccine virus were placed on the stand of drawers, and one half-quill on the top of the frame of the door leading into the adjoining room. The corresponding halves similarly marked were placed in a tight preserve-jar, which was at once put in a refrigerator in another part of the house.

In the middle of the room was placed a large coal-scuttle, nearly filled with wet ashes, and in this an iron pot, holding four pounds of broken sulphur and two pounds of flowers of sulphur; this was then well moistened with alcohol, and a lighted match applied. When the sulphur was well burning the door of the room was closed, which was at 1.25 P.M. At 11.25 P.M. the hall door and window were opened for one hour, and the room thoroughly aired. At the end of this time the odor of sulphur was distinctly perceived, but there was no difficulty in breathing in any part of the room. The sulphur in the pot was completely consumed. At the end of the hour the door and window were again closed, and kept so until 10 A.M. the following day, the 19th. When the door was again opened the air of the room was so impregnated with sulphur that respiration was impossible, and an airing of ten minutes was necessary before it could be entered.

At the end of this time the pieces of blanket were collected, and at 12 M. healthy rabbits were inoculated by Dr. Sternberg with the blood soaked out from the pieces of blanket in sterilized beef-tea. The rabbits, as fast as inoculated, were put in a cage, each in a separate compartment, and given the same numbers as those of the pieces of blanket with the blood of which they had been inoculated. The inoculation was completed within an hour.

The vaccine which had been exposed to the fumes was put into the jar containing the non-fumigated virus, and the jar replaced in the refrigerator, where it was kept until the material was used in vaccination.

#### RESULTS.

Rabbit No. 3, inoculated with septicæmic blood from folded piece which had been fumigated, was found dead in the cage at 7 A.M., April 21st, forty-three hours after inoculation. He was apparently well the night before; the exact time of death is not known.

Rabbit No. 14, inoculated with non-fumigated septicæmic blood, died at 2 P.M., April 21st, fifty hours after inoculation.

Rabbit No. 7, inoculated with anthrax blood from folded piece which had been fumigated, was found dead at 7 A.M., April 23d, ninety-one hours after inoculation, being apparently well the night before.

April 20th, a child, 7 months old, previously unvaccinated, was vaccinated by Dr. Griffiths in two places upon the same arm, one with virus from the fumigated half, and the other with virus from the non-fumigated half of the same quill. The latter was successful; the former failed utterly.

The same was practised upon a young lady, 20 years of age, showing no vaccine cicatrix, and stating that she had never been vaccinated, with a fumigated and a non-fumigated half of a quill with the same result, namely, failure from the fumigated and success from the non-fumigated slip.

A calf was vaccinated in the same way on the inner sides of the two thighs with the same result.

*Interpretation of Results.*—There seems to be no doubt that sulphurous acid gas, produced from burning sulphur, destroys the vitality of vaccine virus. This has been hitherto demonstrated by Dr. Sternberg, and this experiment confirms it.

It will be noticed that the rabbit inoculated with non-fumigated septicæmic blood, No. 14, died, as did also No. 3, the one inoculated from the folded piece of blanket, while all the other rabbits inoculated with septicæmic blood, were apparently unaffected and survived—even No. 4, which was inoculated with blood from the blanket placed between the two mattresses in close contact. I cannot understand how the gas could more readily have found its way between the mattresses, and destroyed the germs there placed, than between the folds of a small piece of blanket hung up in the room.

As the rabbit inoculated with non-fumigated anthrax was apparently unaffected, while one inoculated with fumigated anthrax died, I think no conclusions of any value can be drawn from this part of the experiment.

Finally, after a careful review of the experiment and its results, I am led to regard the vaccine experiment as a success, and confirming what has already been well settled,—the experiment with septicæmia as unsatisfactory, and the one with anthrax as a failure.

As a matter of precaution, the rabbits were kept for one month after inoculation, at the end of which time all were well, save the three already referred to.

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## TRANSPLANTATION OF THE CONJUNCTIVA OF THE RABBIT TO THE HUMAN EYE,

### IN A CASE OF SYMBLEPHARON, ASSOCIATED WITH CONVERGENT SQUINT, SUCCESSFUL; SUBSEQUENT CORRECTION OF SQUINT BY TENOTOMY.[1]

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CASE.—July 2, 1883. Elias E., of Summerville, S. C., aged eight years, was injured by an explosion of gunpowder in the face and left eye on the 19th of February, four months ago. He suffered intensely for three weeks, and was confined to his room. When convalescent, the face had peeled, the outer half of the left eye was closed by cicatricial tissue uniting a part of the upper and lower lids to the globe, the inner half could be opened by forcing open the lids with the fingers. The right eye had escaped injury He was subsequently operated upon by Dr. ——, on the 15th of June, without relief, as so often happens in such cases.

On July 22d, the case was brought to me. There was a large symblepharon uniting the outer half of the upper and lower lids, and the outer canthus of the eyeball, and extending by a broad pterygium band over two-thirds of the outer half of the cornea. The surface of the symblepharon was injected and covered with numerous granulations, some of them extending over the surface of the cornea. The eye was about half open. There was also convergent strabismus, which remained stationary on closing the other eye. Vision was limited to counting fingers, owing to the partial occlusion of the pupil, and opacity of the cornea. The pupil dilated freely under atropine; the inner part of the conjunctiva was so injected, that it was difficult to determine the limits of the cicatricial tissue. The patient was ordered a collyrium of zinc and rose-water, two grains to the ounce, with frequent applications of warm water, with a tonic of iron and bark, and a generous diet. At the end of a month most of the granulations on the outer half of the ball had subsided, and the congestion of the inner half of the eye had cleared up, thus defining the limits of the symblepharon. This was so extensive that transplantation of healthy conjunctiva of some kind presented the only chance of relief. I proposed to use the conjunctiva of the rabbit.

On August 3d, I performed the operation, assisted by Drs. H. D. Fraser, John Forrest, and Jno. L. Dawson, Jr. The patient being chloroformed the operation was commenced by Arlt's method; dissecting up the broad pterygium-like bands from the cornea and globe, thus liberating the ball, then folding it upon itself, and attaching it out of view under the outer canthus by two fine silk sutures. This allowed free rotation of the eye. It was impracticable to complete the operation by combining Mr. Teale's plan of dissecting up, and transposing healthy conjunctiva from the inner half over to the outer half of the denuded surface of the ball, more than one-half of the outer conjunctiva ocular and palpebral having been removed.

I then gave a black English rabbit, held by two assistants, chloroform. I divided the inner and outer canthi of his right eye, so as to evert the upper lid freely, and dissected off two-thirds of the conjunctiva from the ball, and upper and lower lids, and transferred it to the point of my left index finger by the aid of delicate forceps, keeping the epithelial surface upwards. This required great care, as the conjunctiva of the rabbit rolled up in a mass as soon as it was severed. When spread out upon the point of the finger, the attached or under surface adhered smoothly to it. I then trimmed it in shape and quickly transferred the graft in posi-

[1] Read at the annual meeting of the South Carolina Medical Association, April, 1885.

tion, uniting it by ten points of fine animal sutures (made of the tendons of squirrel tails) to the cut edges of the conjunctiva of the boy's eye. The curved border of the rabbit's conjunctiva, cut away from its cornea, was well adjusted to the outer border of the cornea of the lad. The graft had a slightly bluish cast, contrasting with the white remaining portion of the boy's conjunctiva.

The patient bore chloroform badly, interfering with the rapidity of the operation, which lasted an hour and a half. The eye was dressed with a cold cloth, with a light compress of absorbent cotton, secured over both eyes, as in the dressing after operation for cataract.

*August 4.*—Vomiting continued yesterday and last night, temperature 100°, pulse 102. He was ordered milk and lime-water, with a mustard cataplasm to the stomach, and morphia in small doses; dressings undisturbed.

*5th.*—Vomiting lessening, more comfortable temperature, 100°; pulse 96; dressings removed, graft examined and found in good position; it looked rather paler than when first transplanted. Same dressings continued.

*6th.*—Vomiting ceased, taking nourishment, cheerful; the graft is slightly injected on the lower half, the upper part is in good position but has a slightly shrivelled appearance; dressings replaced.

*8th.*—Graft injected all over, and it seems to have taken throughout its whole surface. The two silk sutures were removed, the animal sutures are being absorbed; they have produced no irritation to the conjunctiva. The bandage was removed from the good eye, and retained on the bad one. The lad is playing about the room.

*10th.*—Progressing favorably; dressings removed.

*15th.*—Patient discharged and returned to Summerville, where I saw him again on the 20th, playing with his companions, and quite comfortable so for as his eye was concerned.

*October 1.*—On reporting to-day, all the movements of the eye were good; it was still crossed, a few cicatricial bands extending from the upper and lower lids to the adjoining portion of the graft at the outer canthus, but did not encroach on the cornea, or interfere with the movements of the eye. On closing the good one the bad eye became straight, which it could not do before the operation. The cornea had cleared considerably, he could easily tell letters in D. 3 (Snellen).

Up to this time, since the operation, no wash was given for the eye, as I did not know what effect it might have upon the graft, and could not watch the effect, as I was absent from the city, and did not see the patient from the 20th of August, to the 1st of October. The graft was now so thoroughly united, I ordered a mild zinc wash with a view of clearing up the cornea, and preventing the formation of any additional bands of adhesion.

*17th.*—To-day the opacity of the cornea not having improved, the zinc wash was discontinued, and a solution of hydrobromate of eserine, one-half grain to the ounce of water was substituted, four or five drops to be instilled into the eye three times a day.

*30th.*—Under the influence of eserine the opacity of the outer half of the cornea has lessened, the outline of the pupil is distinct. Vision has improved, reads words in D. 1 (Snellen). The small cicatricial bands referred to are paler and smaller; solution of eserine discontinued.

*31st.*—To-day I operated for strabismus, making a double tenotomy. Drs. W. C. Ravenel, and Jno. L. Dawson, Jr., were present. The patient was not as much affected by the after-effects of chloroform as on the previous occasion; the result was satisfactory, and on the 17th the patient was exhibited at my clinic with the black rabbit from whose eye the graft had been taken. The lad has since that time (nearly two years) been at school, and has had no further trouble. I now have the pleasure of presenting him to the Association.

*Remarks.*—This operation was first performed by Mr. Wolfe, of Glasgow, in 1872. He transplanted the human, as well as the rabbit's conjunctiva successfully in a number of cases. I have seen very few cases reported by American surgeons. It is likely that it has often been performed without the cases being reported. I have been informed of four cases: one was a partial success, the three others were failures. No report has been made of the cases. Dr. Henry D. Noyes, of N. Y., published in the *Medical Record*, February, 1883, the fullest account of cases in this country, and the method of operating, which I have seen. He says:

"Many European surgeons have done the operation, but in this country it has, so far as my information goes, not been extensively imitated. Soon after it was announced I made a trial of it, and Dr. W. I. Little, whose case has recently been published, when he was my assistant in the New York Eye and Ear Infirmary during 1873–4, aided me on more than one occasion. I do not find a record of my earliest operations, but since 1878 there have been seven operations done at the Infirmary, of which one was performed by Dr. Callan, and six were performed by myself. In the majority the lesion was symblepharon caused by burns of the eye, but about four years ago I employed the method to increase the size of the conjunctival sac that a patient might be enabed to wear an artificial eye."

As to the success attending the operation, Dr. Noyes says: "in no instance have I meet with entire failure, while the degree of benefit has been various." The rest of the article describes minutely the steps of the operation and the management of the rabbit, as done by Dr. Noyes, and also by Mr. Wolfe.

The only important difference between the two methods, is that Dr. Noyes transfers the graft from the eye of the rabbit to a piece of cork in a saucer of water, where it is secured by pins and trimmed into shape, it is then transferred to its place either on the palpebral or ocular surfaces as he prefers, and secured by sutures eight to ten, or as many as may be required. Mr. Wolfe measures the shape of the flap of conjunctiva before excising it, and transfers it directly to the palpebral surface, and secures it by sutures; he thinks this preferable to placing the graft on the ball. Dr. Noyes has applied the graft to both ball and lid. To make the cul-de-sac, the stitches are brought through the eyelid and tied over a bit of stick on its outer surface. Both use black silk sutures inserted in the flap of the conjunctiva with a knot, to

mark the epithelial from the raw surface; the other ends of the sutures are threaded with needles. After transferring the graft in position, the same needles and sutures are used to secure it. Mr. Wolfe uses four black sutures; Dr. Noyes two. Both take the conjunctiva from the inner canthus. Dr. Noyes slits up the inner canthus and turns back the angles and stitches them temporarily, which facilitates dissection of the conjunctiva. Both consider quick transportation without previous handling of the conjunctival graft very necessary to success. Dr. Noyes prefers the black rabbit to the white, because the "conjunctiva is firmer and can therefore be more easily handled," and for convenience places the rabbit in a pasteboard box with his head through a closely fitting hole, and gives the anæsthetic and makes his dissection in that position. Mr. Wolfe provides two rabbits, holding one in reserve in case of accident.

In my case I selected the black rabbit, because the cornea is smaller in proportion to the size of the ball than in the white one, affording a larger piece of ocular conjunctiva for dissection. It was necessary to dissect up the cul-de-sac and a part of the palpebral conjunctiva of both lids to secure a graft of sufficient size. This was done by the aid of two delicate forceps, one held by myself, the other by an assistant. On removing the graft it rolled up upon itself, but with care I had no difficulty in detecting the difference between the surfaces. It was then spread out on my left forefinger to which the raw surface adhered closely, and by carrying the finger to the boy's eye, I trimmed it in shape pretty accurately. The graft was taken from the outer side of the rabbit's eye. I slit up the outer and inner canthi, and everted the lids to gain more room for dissection, and because the outer side of the ball affords a larger piece of ocular conjunctiva than the inner, and is more easily dissected away than the palpebral conjunctiva, which is more closely adherent.

In preparing the eye for the graft, Mr. Wolfe and Dr. Noyes dissect separate or remove all cicatrices and adhesions so as to give free motion to the eyeball in all directions. The presumption is that these are cut entirely away. In my case, after dissecting the bands of adhesion from the ball, I inverted the pterygium-like growth under the upper and lower lids, and attached it by two sutures by Arlt's method in operating for pterygium. This, I think, is an important provision in the operation, as it leaves a surface more or less covered by epithelium to come in contact with the epithelial surface of the graft, instead of a larger raw surface resulting from the entire removal of the adhesive bands.

These directions may appear to one who has never performed the operation, or seen it done unnecessarily minute. He will not think so if he attempts the operation without carefully studying the details so necessary to success. I performed it on general principles without refreshing my memory on these details, and did not see Dr. Noyes's article until afterwards when I was looking up the subject. It would have assisted me very much, as it is I think by far the clearest description of the operation I have read.

The sutures I used were animal, made of the tendons of squirrels' tails, which can be split as fine as the finest silk. The objection to them is that only a few in each tail can be used, the others are too short to tie easily. They should be kept in carbolized oil, and before using them should be taken out and wiped and dried an hour or two. This makes them stiff and facilitates the tying; otherwise they are sticky and difficult to handle. The advantages of using these delicate animal sutures are these: they quickly soften after being inserted, produce no irritation, are absorbed on the third day as a rule, except the knots, which are pulled away by forceps without alarming the patient, by cutting them with scissors as when silk is used. It is not necessary even to remove the knots, they disappear or are separated and escape with the secretions of the eye in three to five days. In this case I secured the graft with ten sutures. I had occasion to pull away only one knot, even this was not necessary, as it was not irritating surrounding structures, and mashed up in the bite of the forceps.

Speaking of these sutures, I may digress for a moment to say that I use them habitually in all operations upon the eye, usually requiring fine silk sutures, so as to avoid the necessity of cutting and removing them. In suturing the conjunctiva in the operation for pterygium; bringing forward the recti muscles, in canthoplasty (Agnew's modification), or wounds of the eyelids and face: they are especially adapted to children, in many of whom the removal of silk sutures gives as much trouble as inserting them at the time of the operation. In one case I assisted in using them in suturing a lacerated cornea, after removing the injured lens, and the globe was preserved intact. Union resulted with a leucomatous cornea; the sutures were absorbed. Latterly I have experimented with sutures made from the opossum's tail; one tail furnishes from thirty to forty sutures, and as many short ones about the length of the longest squirrel tail sutures. The sutures of the opossum's tail are very strong, the largest can be split into three or four delicate ones sufficiently strong for most operations about the eye, or for suturing wounds about the eyelids and face. The largest ones are applicable for many purposes in abdominal surgery, more particularly for securing the bleeding surfaces of adhesions of the peritoneum in ovariotomy, or for suturing wounds of the intestine, etc. They are stronger than catgut, produce absolutely no irritation, and are completely absorbed in from three to five days.

## MEDICAL PROGRESS.

INFLUENCE OF DIFFERENT AGENTS UPON EBERTH AND KOCH'S BACILLI OF TYPHOID FEVER.—E. BAGENOFF, in the *Yégénéd klin. Gazzeta*, 1885, Nos. 5 and 6, states the following facts concerning the bacilli of typhoid fever of Eberth and Koch.

1. The bacillus of typhoid fever is preserved in water and may even multiply to a certain extent. Therefore, drinking-water should be considered as a source of infection of typhoid fever.

2. The milk of the cow is not a favorable medium for developing the bacilli of typhoid fever; nevertheless, these bacilli may live and be multiplied therein, and

therefore the milk of the cow may be an intermediate means of transmitting the infection of typhoid fever.

3. Gastric juice destroys the bacilli of typhoid fever.

4. The parasiticide action of the gastric juice depends only upon the action of the hydrochloric acid contained therein.

5. Pepsin, bile, and the pancreatic secretion do not destroy the vitality of these bacilli.

6. Bile and the pancreatic fluid even seem to favor the development of the typhoid bacilli.

7. Cold arrests the development of these bacilli, but does not destroy them.

8. A temperature of from 98.6° F. to 107.6° F. is most favorable for the development of the bacilli of typhoid fever. Above 113° F. their development is impeded and is entirely arrested when the temperature exceeds 122° F.; *the bacilli* perishing, but their *spores* preserving their vitality.—*Gazette Médicale de Paris*, May 2, 1885.

EUCALYPTUS AS AN ANTISEPTIC IN CERTAIN DISEASES OF THE RESPIRATORY PASSAGES.—DR. BONAMY, after treating pulmonary gangrene, diphtheria, and croup antiseptically with eucalyptus in connection with other remedies, considers the influence of the eucalyptus as exceedingly beneficial, and attributes to it much of the success of the treatment employed as indicated below:

1. Atomization of the infusion of the leaves of eucalyptus, repeated every two hours, in the near vicinity of the child.

2. Application of lemon-juice upon the pseudo-membranous spots.

3. Potions containing chlorate of potassa and milk, to which lime-water had been added or the flowers of sulphur (fifteen to thirty grains in twenty-four hours).

4. Wines, champagne—Bordeaux, Malaga—chocolate, coffee, etc.

Though the treatment is complex, it is not more so than the disease. The eucalyptus, administered internally and externally, seems to answer the first indication, namely, to combat the infectious element. The lemon-juice applied locally, and the chlorate of potassa and flowers of sulphur administered internally, seem to answer the second indication, viz., to destroy and to detach the false membrane while the wines, etc., fill the fourth indication of supporting the strength of the patient; for though the vital force of the child is strong, nevertheless it is necessary to provoke reaction. Like the mixture of tar and turpentine recommended by Dr. Delthil, eucalyptus responds only to one of these indications, but in the opinion of Dr. Bonamy, it possesses superior efficiency and to it in a great degree he attributes the simplicity with which the disease is evolved in young patients in whom tracheotomy is performed, and upon others.

In addition to the beneficial results attained in pulmonary gangrene and diphtheria, Dr. Bonamy strongly recommends eucalyptus in whooping-cough in the form of inhalations and draughts, as exercising an evidently salutary influence upon the violence and frequency of the cough and upon the duration of the disease.

Dr. Bonamy concludes his observations by suggesting that for each infectious entity and for each group of organs, a special disinfectant will be found to correspond, and that the antiseptic power of any substance is not always directly in consequence of its intensity, but rather by reason of its approximation by this or that organ or its influence upon one or another infection. Thus eucalyptus seems in pulmonary affections to possess the same direct influence as does quinine upon malarial disease, and mercury upon syphilis.—*Bulletin Général de Thérapeutique*, May 15, 1885.

THE CONTAGIOUSNESS OF PULMONARY TUBERCULOSIS IN CHILDREN.—PROF. OLLIVIER, in a paper read before the Académie de Médecine de Paris, April 28, 1885, insists upon the transmissibility of tuberculosis during childhood, and supports his views by reference to cases in his own clinical experience. In order to protect children from the contagion of the disease, he holds that strict attention to hygiene is necessary, and suggests the following points to be observed:

1. Isolation in families, as in hospitals, of tuberculous children.

2. The non-permission of healthy children to remain for a long time with tuberculous children, and the entire interdiction of healthy and tuberculous children from occupying the same room during sleep.

3. The perfect ventilation of the chambers occupied by tuberculous children,

4. To cleanse carefully the playthings, clothing, linen soiled by expectorated matter, or to destroy the latter by a powerful physical or chemical agency to prevent their drying in the atmosphere.

By attention to the above precautions, Prof. Ollivier believes that this disease, which is continually increasing, may be diminished in children as well as in adults. —*L'Union Médicale*, May 23, 1885.

CANCEROUS RETURN AFTER ABLATION OF CYSTS OF THE OVARY.—M. TERRILLON, at a meeting of the Société de Chirurgie de Paris, after discussing the cancerous return sometimes exhibited after ablation of cysts of the ovaries, concluded his observations as follows:

1. There sometimes is seen subsequent to the ablation of a multilocular ovarian cyst after a long or shorter period of apparent health, the development of cancerous disease which is fatal by reason of its general or local effects.

2. This cancerous degeneration is exhibited under two conditions entirely distinct from each other, sometimes appearing in the region of the locality operated upon, the pedicle, peritoneum, and the abdominal cicatrix, and at others appearing in a remote organ, such as the stomach, rectum, uterine neck, the bones or ganglia.

3. In the first case a local return must be admitted, due to implantation of vegetations from the tumor upon the peritoneum, or to the grafting of cancerous elements.

4. The return is easily explained by the nature of the cysts. It seems actually admitted that the cysts of the ovary, properly so-called, have a structure which enables them to be considered as epitheliomata, susceptible of being transformed into sarcomata, carcinomata, etc. The ablation of a cyst which is not united to other parts except by a slight pedicle explains the ordinary absence of return after operation. Certain varieties of cysts with sarcomatous or vegetative walls seem especially predisposed to return.

5. It is impossible actually to establish the proportion of patients who present secondary tumors after ovariotomy, though the number does not seem to exceed two

or three per cent. The mean duration of life in the case of return does not exceed one or two years. Return seems more frequent in patients operated on at an age of forty or fifty years.—*L'Union Médicale*, May 5, 1885.

THERAPEUTICS OF HELENIN.—SENOR BAEZA writes, in a Spanish medical journal, in very warm praise of the drug helenin, which is made from the plant *Inula Helenium* (Elecampane), and which, though by no means new to Spanish pharmacy, has only lately been discovered by Dr. Korab to possess antiseptic properties in a very remarkable degree. In comparative experiments made with salicylic, boracic, and carbolic acids, helenin was found to excel all the others in its power of arresting putrefaction. It has also the advantage of being less irritating than carbolic acid, and can be given internally much more freely. A few cases in which it has been advantageously employed are reported. In a case of retained placenta where carbolic acid injections had to be stopped from the intense irritation and pain produced, and where by the fifth day septicæmia had set in, injections were commenced of 20 centigrammes (3 grains) of helenin in 300 grammes of water. At the first injection the odor, which was horrible, disappeared. After two days of this treatment, the placenta was spontaneously expelled, and was found to be odorless, and in a few days the woman was convalescent. In these cases the proportion of helenin recommended is 0.6 per 1000 of water. A case of anthrax which, though treated with quinine, charcoal, carbolic acid, and chlorine water, was gradually invading the surrounding tissues, a fatal result being feared, immediately began to improve on the application of a solution of helenin. A case of ozœna where the breath was so foul that the patient, besides frequently gargling with chlorine solution, was obliged to keep a mint lozenge perpetually in the mouth, was quickly improved by treatment with gargles and lozenges of helenin. A case of itch in a child yielded rapidly to a lotion and embrocation of helenin. Turning now to cases in which the drug has been administered internally. A woman with intermittent fever which had lasted two months, though treated with hypodermic injections of quinine and many other drugs, was given 25 centigrammes of helenin combined with 1 gramme of quinine in 20 pills during each intermission, and was very shortly cured. A patient with phthisis causing colliquative diarrhœa, which could not otherwise be controlled, was given helenin, and though this did not cure him or save his life, it put a stop to the most distressing symptom of the disease. Senor Baeza's own child, aged 15 months, was suffering from enteritis due to dentition. It was given in spoonfuls, gr. 1½ of the drug in about 3 ounces of mucilage, with the result that the diarrhœa immediately began to abate and soon stopped. Dr. Ferrán, who has been engaged in a series of most important experiments with "vaccinia" induced by hypodermic injections of cholera cultivations, has examined the action of helenin on the cholera bacillus, and states that it differs from the action of all other agents, being more destructive to the bacillus. We may mention that helenin is advertised in the *Correspondencia Medica* at 1.50 pesetas (1s. 3d.) per gramme.—*Medical Times and Gazette*, May 2, 1885.

NEPHRECTOMY.—At a meeting of the Académie de Médecine held May 5, 1885, M. Polaillon reported a case of nephrectomy in which the patient was a woman aged 27 years who entered the Hôpital de la Pitié, suffering with a painful swelling in the left side. M. Chauffard confirmed the presence of a tumor which appeared to be in relation with the kidney. Puncture with the aspirator, twice practised at intervals of four hours, evacuated each day from six to eight ounces of a turbid fluid having the odor of urine and laden wtth pus which separated on standing. The urine passed also deposited pus on standing. To complete the diagnosis, M. Chauffard administered thirty grains of salicylate of soda to the patient, and the day following the presence of the drug was confirmed in the fluid obtained by aspirating the tumor. He then injected into the tumor fifteen and one-half grains of a solution of fuchsine, and an hour subsequently the urine was colored red. It was, therefore, shown that the tumor was a cyst containing urine and pus, and that it communicated on the one hand with the kidney and on the other with the bladder through the medium of the ureter. M. Chauffard, therefore, concluded that there existed a pyelonephritis, and considered it probable that the ureter was partly obliterated by a calculus.

M. Polaillon was called in consultation, and the diagnosis confirmed, and inasmuch as the cyst rapidly refilled after puncture and as only transient relief was afforded the patient by this procedure, operation was decided upon, and performed by M. Polaillon assisted by M. Chauffard.

A vertical incision was made extending from the lower border of the twelfth rib to the crest of the ilium. Having arrived at the muscular tissue the bistoury was abandoned and the galvano-cautery substituted therefor, and almost entirely without loss of blood penetrated to the kidney. The posterior surface of the organ was then explored with the finger, and it was discovered that considerable enlargement existed; the organ extending from the vault of the diaphragm to the superior limit of the pelvis. The original incision being now seen to be insufficient, a second incision was made starting from the lower end of the original incision and running forward along the crest of the ilium for two and one-half or three inches, thus affording sufficient space to admit the ablation of the kidney and of making the necessary ligations.

The displacement of a large renal calculus occupying the bottom of the incision caused some tearing of the renal tissue and was followed by a flow of pus mingled with urine and blood. By aid of the forceps introduced into the renal cyst two large calculi were removed. To arrest the hemorrhage produced by the laceration of the kidney numerous ligatures of gut were applied, and, finally, the kidney was detached with the scissors about two-fifths of an inch below the inferior ligature.

The cavity, which was very extensive after removal of the kidney was washed out with carbolized water, and, finally, when hemorrhage was controlled, the lips of the wound were closed by four sutures, a drain introduced, and antiseptic dressing applied. The results of the operation were most happy and the patient is in such condition as renders her recovery assured.—*L'Union Médicale*, May 7, 1885.

# THE MEDICAL NEWS.

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SATURDAY, JUNE 20, 1885.


## THE SURGERY OF ANEURISM OF THE ABDOMINAL AORTA.

THE surgical treatment of aneurism of the abdominal aorta, a subject replete with great practical interest, has recently attracted no little attention from the publication of two cases by PROFESSOR LORETA, of Bologna, and MR. LUNN and DR. BENHAM, of London, accounts of which may be found, respectively, in the *Memoirs of the Royal Academy of Sciences of the Institute of Bologna*, Vol. 6, 1885, and the *British Medical Journal* for April 11, 1885.

The patient of Loreta was a sailor, thirty years of age, who, on admission into the hospital in December, 1884, was found to have a large pulsating tumor, accompanied by a loud bruit, in the epigastric and left hypochondriac regions, which was traceable to violent efforts in furling a sail in February, 1883. There was little pulsation in the femoral arteries, and the limbs were cold, and the seat of sharp, lancinating pains. On the 19th of December, an incision was carried from the base of the ensiform cartilage to the umbilicus, superficial adhesions were separated, and many deep adhesions between the sac, the stomach, omentum, transverse colon, and liver were divided; but as it was found impossible to dissect the sac from its union with the spleen, diaphragm, and the cardiac end of the stomach, or to trace the tumor down to its mouth, the idea of closing its mouth by ligature or suture, or of emptying, inverting, and stitching up the sac, had to be abandoned. The sac was, therefore, punctured with a delicate trocar, and rather more than two yards of silvered copper wire were introduced into it, when the abdominal wound was closed.

Without entering into minute details of the subsequent progress of the case, it may suffice to say that the bruit had entirely disappeared on the twenty-second day; that the tumor was completely consolidated, and diminished three-quarters in volume, at the expiration of one month; and that the patient was discharged on the seventieth day, apparently cured. Twenty-two days subsequently, however, death suddenly ensued from rupture of the aorta, at the point of union of the artery with the front wall of the sac. The latter was reduced to the size of a walnut, and was filled with organized fibrin and the unaltered wire, which was rolled up into a globular mass.

The patient of Mr. Lunn and Dr. Benham was a shoemaker, thirty-two years old, with a history of syphilis. Ordinary measures having failed to afford relief, distal compression of the aorta by means of Carte's tourniquet, applied just above and to the left of the umbilicus, was kept up for four hours and three-quarters, under chloroform. The tumor soon became harder and smaller, and the pulsation was diminished; the man continued to do well for seven days, when persistent vomiting of grumous material set in, and was accompanied by a feeble and very rapid pulse, intense thirst, and other untoward symptoms. His condition became worse, and death ensued on the twelfth day, when the aneurism was found to be cured; the superior mesenteric artery was completely blocked; and two feet of the jejunum were gangrenous.

The case of Professor Loreta is the first on record in which an aneurism of the ventral aorta has been reached by laparotomy. The insertion of wire into the sac is, however, not novel, that plan of treatment having originated with the late Mr. Moore, at the Middlesex Hospital, in a case of aneurism of the thoracic aorta. Although the introduction of foreign materials such as wire, watchsprings, horsehair, catgut, and silk, with the view of inducing coagulation of its contents, has uniformly been followed by death or failure, the possibility of complete consolidation of the tumor being effected in this way is demonstrated by the case of Loreta, a result which justifies its repetition in cases in which other measures are inapplicable. From the situation of the aneurism proximal compression of the aorta was out of the question; and had the blood-supply of the diseased arterial wall below the tumor not been interfered with by the compression exerted upon the vessel by the coagula in the sac, Loreta's case would doubtless have proved to be a brilliant success.

The case of Mr. Lunn and Dr. Benham is also an illustration of the cure of aneurism, but it likewise shows the almost utter hoplessness of distal compression, which failed in the case of Marshall, and proved fatal in that of Skerritt, from rupture of the sac, and,

as we have seen in the case under consideration, from gangrene of the jejunum, either as the result of direct pressure, or of failure in its supply of blood from occlusion of the superior mesenteric artery. In the patient of Bryant, distal compression of the aorta for sixteen hours induced death by peritonitis, the aneurism having been one of the cœliac axis. In addition to these objections, it is doubtful whether the compression in any of these cases was truly distal, and whether it would not have been more accurately described as combined distal and direct compression.

We cannot but think, with Mr. Jonathan Hutchinson, that surgical measures should not be resorted to until after the failure of general remedies in all cases of aneurism of the abdominal aorta. In a man under his care he succeeded in bringing about a cure in three months by very large doses of acetate of lead, doses which produced toxic symptoms, with a dry diet, absolute rest, and the application of ice to the abdomen. He regards the combined use of acetate of lead, ergot, and iodide of potassium, pushed almost to the extent of poisoning, as constituting the best treatment of these most dangerous cases; and Tufnell's success in two cases, which were cured, respectively, in twenty-one and thirty-seven days, by a restricted diet, rest, and a more cautious use of drugs, goes far to support Mr. Hutchinson's views.

In the event of failure of medical treatment, proximal pressure, whenever it is practicable, holds forth the best prospect for a successful issue. Thus a cure resulted in the cases recorded by Murray, Heath, Moxon and Durham, Greenhow, and Philipson, while Pollock met with a failure, and the patients of Paget and Durham died, respectively, of peritonitis and bruising of the pancreas. Hence the cures amount to 62.5 per cent., while the deaths number only 25 per cent., the risks, apart from prolonged anæsthesia, being, as in distal pressure, from peritonitis and contusion of the viscera. Should proximal pressure be impossible from the situation of the sac, it becomes a serious question, in view of the dangers of distal pressure, whether the operation of Loreta is not the only resource. In the language of Mr. Holmes, in his comments upon the cases that have called forth this article, which may be found in the *British Medical Journal* for April 18, 1885, "we incline to this method," Loreta's, "rather than to a pressure, which was rather doubtfully distal." Whether this view be correct or not, further experience can alone determine; and that this experience will be forthcoming is assured by the trials which modern surgeons do not hesitate to make of every promising novel operation. Before undertaking it, they should, however, consider the risks from embolism, since Dr. Maclean states, in the *British Medical Journal* for May 9, 1885, in connection with the case of Mr. Moore, that, "in the fresh preparation innumerable clots, of varying consistence, were hanging from the wires, ready to drop into the blood; and emboli, exactly like them, were visible in the arteries of the organs, carefully dissected to show them."

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### THE TREATMENT OF OBESITY.

THERE can be no doubt that if an efficient, and at the same time, harmless treatment of obesity could be attained, it would be very popular with those afflicted with the tendency to over-accumulation of fat, not only because of the personal deformity which would thus be avoided, but also on account of the increased ease with which the individual thus relieved would perform his role in life as a worker and bread winner. Further, the frequency with which physicians are often asked for a remedy for this condition makes it a matter of importance to them from a practical point of view. Hence, we know our readers will be interested in the discussion of this subject which took place in the Congress for Internal Medicine, recently sitting at Weisbaden.

PROF. EBSTEIN, who read the introductory paper, very sensibly said, first, that no treatment dare be considered rational which results in inanition or a conspicuous destruction of other tissues than adipose. Further conditions of such treatment are that it shall be easily carried out, and that it shall involve no useless inconvenience or great sacrifices in the life of the patient.

It is also evident that the method of treatment may be based upon the withdrawal of certain articles of food, upon regulation of habits of life, or both. In point of fact, all methods heretofore adopted have aimed to restrict the excessive use of certain articles of food, as albumen, fat, and carbohydrates, which modern physiology teaches are the most important alimentary principles concerned in the formation of fat. A proper nutrition does not permit the withdrawal of albumen, but it is possible to place the fats and carbohydrates in such relation as to prevent an undue accumulation of body fat. Ebstein's method does not interfere with the ingestion of albuminous food, and may be said to be characterized by a more liberal allowance of fats, although he also restricts these somewhat, and protests against his system being called a "fat cure" in the sense that it is a cure by the use of fats. He claims that by permitting the ingestion of a moderate amount of fat, hunger and thirst are diminished and a reduction in the over-ingestion of food rendered more easy. The hydrocarbons on the other hand, of which sugars and starches are the type, are decidedly restricted.

A second characteristic feature of Ebstein's method is a limitation of liquids ingested, a part of the treatment which, as has been said, is facilitated by per-

mitting the use of a moderate amount of fat. This is supplemented by measures which secure an increased loss of water by sweating, such as forced muscular exercise, or suitable baths. Drugs are to be avoided, while the natural mineral waters, especially those containing a large amount of sodium sulphate, as Carlsbad, and Marienbad, so much vaunted for this purpose, are useless.

Ebstein objects to the method of Banting, which restricts the patient to an almost pure albuminous diet, because, although it accomplishes its object in removing excessive fat, it is not without danger. Oertel's method, through deprivation of water, is also efficient, but on account of the discomfort produced by the extreme thirst, is not well borne.

In the discussion which followed the reading of the paper, it was evident that all were not in accord with Ebstein. Thus, HENNEBERG, of Göttingen, the co-referee, who adduced a large number of facts based on the fattening of animals, said it was the universal testimony of farmers that the free use of water operates unfavorably on the fattening of animals. He also adduced the important fact, which should not be lost sight of in any system, that animals, once fattened, do not lose flesh even when the quantity of food is considerably cut down, provided they are kept at rest. Active exercise, however, rapidly reduces their fat. In the fattening of animals all the three foods—albuminous, fatty, carbohydrates—contribute, and food poor in fats is still efficient in fattening when it is supplied in abundance. Experiment also showed that in the case of herbivora, given quantities of carbohydrates produce more adipose tissue than equal amounts of fatty foods.

BAUER, of Münich, agreed with Ebstein in that the true Banting system might be harmful, but thought with Voit, that a modification of this system by which a limited amount of non-nitrogenous food is permitted, could be applied with efficiency and without disadvantage.

ZUNTZ, of Berlin, saw no good reason why Ebstein should distinguish between fats and carbohydrates. He thought the indication was simply to cut off the fat-producing foods, and it mattered not how it was accomplished. In the matter of diminishing the ingestion of water, he made the important point that it makes a difference whether the kidneys and organs of circulation are normal or not. In heart and renal disease, it is difficult for the system to work off any excess of water which is, therefore, disposed to accumulate. So, too, Zuntz has found that the addition of a saline solution to the food facilitates the taking up of oxygen, and the excretion of carbonic acid—ten to fifteen per cent.—and the combustion of fat must evidently be influenced thereby.

UNNA, of Hamburg, said that as there is a difference in the conditions of deposit of muscular fat, subcutaneous fat, and visceral fat, any system of treatment which is not based on this fact is erroneous. He does not tell us, however, what the differences in these conditions are.

BAELZ, of Tokio, remarked that, in Japan, obesity is extremely rare among the laboring classes, who live exclusively upon vegetables, which is perhaps ascribable to the fact that the Japanese consume very little water and almost no alcohol.

While it is evident from the above that there is no clear cut road for the removal of obesity, we think we may take courage to advise, with some hopefulness, those who may consult us on this subject. It is evident, moreover, that we must avail ourselves of one or more of the means to this end, according to the circumstances of the case. We would remind our readers, however, that the idea of active exercise must never be lost sight of, and that more can be accomplished by combining it with a moderate restriction of the fat-producing foods than by their total elimination unaccompanied by measures which favor the combustion of the elements of fat.

## THE EPIDEMIC AT PLYMOUTH.

THAT the epidemic at Plymouth, Pennsylvania, which is still prevailing in a mitigated form, is one of typhoid fever there seems no longer any reasonable doubt. If any previously existed, it is removed by the supplemental paper by Dr. Taylor, published in the current issue of THE NEWS, the careful perusal of which will well repay our readers.

It only remains to point a moral from the sad narrative We are forced to admit, from a study of the facts, that a stream may be contaminated by the undisinfected discharges from a single case of typhoid fever, and the mischief which may result from such contamination is immeasurable. The lesson to be learned is, that if we would successfully avert such mischief, it is imperative that every evacuation from a typhoid fever patient be thoroughly disinfected before it is thrown away. In no other way can drinking water be certainly protected from contamination. It is important, too, that care should be taken to throw the dejecta where they will not drain into wells or streams, the water from which is used for drinking purposes. To do this, in every instance, is, perhaps, possible. Hence, the previous injunction, which, if successfully carried out, must secure exemption.

But any one who has had experience with the treatment of the sick among the poorer and middle classes, knows how difficult it is to carry out orders with regard to the management of dejecta. And even physicians are sometimes strangely indifferent to its importance. Hence, it behooves the authorities of towns and municipalities to add their efforts towards preserving the purity of the drinking water.

Every precaution should be taken to keep the sources of the supply absolutely free from contamination by drainage. The fact that a city wherein no such provision is made has been exempt from epidemics for years is no guarantee that such exemption will continue. It is to be remembered that sewage contamination alone is not sufficient to cause typhoid fever. It must be sewage containing the germs of typhoid fever, which, whatever its exact nature, seems capable of multiplying itself indefinitely. Moreover, the distance of the point whence the water-supply is taken, from the possible source of contamination, is no protection.

The City of Philadelphia has been none too soon in providing the "intercepting sewer," by which the drainage of Manayunk and the Falls village is to be carried to a point below the dam at Fairmount, at which the water is taken for the city's supply. The recent experience at Plymouth may well serve as an incentive to redoubled energy in completing this public work, the importance of which cannot be measured by its cost. With the knowledge we now have of its etiology, we ought to be able to stamp out typhoid fever as we ought to be able to stamp out smallpox, and the day will come when both of these desirable events will have been accomplished.

### OSPHRESIOLOGY.

DOCTOR MONIN, Secretary of the French Society of Hygiene, has recently written a monograph upon the odors of the human body. The Society of Medicine of Paris has given him its triennial prize for this work. The subjects successively treated in it are the odor of the skin and its appendages, the odor of the breath, of expectorations, of vomited matters, and of eructations, of feces and intestinal gases, of the urine, of the female genital organs, and of suppuration and gangrene.

Various pathological conditions are indicated by the odor of the skin, or of its perspiration, and by that of the breath. For example, the skin has an ammoniacal odor in cholera, and in dysentery the perspiration has the odor of the anal dejections; in hysteria the hair has the odor of ozone. In diabetes the breath has a sourish odor; if this odor be slight, it is due to aldehyde, but, when more marked, it is due to acetonæmia; a garlic odor of the breath in infants indicates intestinal worms, and upon this indication alone anthelmintics may be given.

Of course, the detection of faint odors will depend upon the olfactory power of the individual, and one may be able to perceive distinctly that which another fails to recognize, for doubtless there are just as great variations in the sense concerned as have been shown to exist in the sense of hearing, or in that of seeing. It is probable that science, which has done such marvels in making the unseen seen, so vastly increasing the size of an object of research, will one day find means to make odors more distinct, and thus assist professional investigation.

### THE OBSTINATE VOMITING OF PREGNANCY.

CHARPENTIER contributes to the June number of the *Archives de Tocologie* an interesting article upon the obstinate vomiting of pregnancy. The purpose of the article is to show that in some cases of obstinate vomiting, the cause is not in the pregnant condition. In one of several cases narrated by him it was the manifestation of a general infection due to absorption of septic products contained in an abscess. In another patient, who was hysterical, the vomiting was caused from her being addicted to morphine; she was cured by change of place, and by hypodermatic injections of water. In a third, the cause of the disorder was tuberculous meningitis.

Charpentier very justly teaches that we ought not, in all cases, to attribute obstinate vomiting to the pregnant condition; in some it is necessary to seek behind the pregnancy another etiological factor, a factor which will often be found in a local, or general malady.

## SOCIETY PROCEEDINGS.

### MASSACHUSETTS MEDICAL SOCIETY.

*One Hundred and Fourth Annual Meeting, held at Boston, June 9 and 10, 1885.*

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 9TH.—FIRST DAY.

DURING the forenoon the members of the Society made the usual visits to the Massachusetts General, City, and Children's Hospitals.

At the General Hospital Dr. J. Collins Warren performed an amputation of the thigh, and showed numerous interesting cases in the wards which were being dressed with sterilized cotton.

At the Children's Hospital Dr. A. T. Cabot performed MacEwen's operation of osteotomy of the femur for knock-knee, and showed a case in which after trephining a child six years of age, who had previously had from six to twenty convulsions daily, remained free from them.

DR. H. C. HAVEN also showed a very interesting and obscure cure of abdominal tumor in a boy of nine years.

At the City Hospital visits were made to the surgical wards, and numerous cases in the service of Dr. E. D. Homans were shown, in which the good results of thorough antisepsis were made apparent. A hæmatocele had healed by first intention after being thoroughly curetted, and a similar result had been obtained with a chronic lumbar abscess. Two cases of strangulated hernia, successfully operated upon by Dr. Wm. P. Bolles were shown, and there were several interesting operations, among them were two for cataract, by Dr. H. W. Williams, and a plastic of the nose, by Dr. Geo. W. Gay.

At 12 o'clock the members met in Huntington Hall, and listened to the following interesting papers:

*Pathogenesis of Certain Affections of the Skin*, by George N. Tilden, M.D., of Boston.

*Consanguineous Marriage: Their Effect upon Offspring*, by Charles F. Withington, M.D., of Roxbury.

*Labor Complicated with Fibroids*, by James R. Chadwick, M.D., of Boston.

The meeting then adjourned until 3 o'clock.

At 3 o'clock the members again met in Huntington Hall, and listened to papers on *The Climatic Treatment of Phthisis*, by Harold Williams, M.D., of Boston.

*How a Lesion of the Brain Results in that Disturbance of Consciousness Known as Aphasia*, by Morton H. Prince, M.D., of Boston.

*The Relation of Insanity to Certain Nervous Affections*, by Henry R. Stedman, M.D., of Roslindale.

WEDNESDAY, JUNE 10TH.—SECOND DAY.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

*President.*—Charles D. Homans, M.D., of Boston.

*Vice-President.*—George N. Munsell, M.D., of Harwich.

*Treasurer.*—Frank W. Draper, M.D., of Boston.

*Corresponding Secretary.*—Charles M. Swan, M.D., of Boston.

*Recording Secretary.*—Francis W. Goss, M.D., of Roxbury.

*Orator.*—Richard M. Hodges, M.D., of Boston.

During the day, as upon the preceding day, there was an exhibition of electrical and new and original apparatus in the Technology Building. The apparatus used by Dr. J. Collins Warren for the sterilization of cotton was shown, and Dr. Vincent Y. Bowditch exhibited and demonstrated the use of the pneumatic aspirator devised by Dr. Herbert F. Williams, of Brooklyn, N. Y.

The business meeting was called to order at Huntington Hall at 9 o'clock in the morning, by the PRESIDENT, CHARLES D. HOMANS, M.D.

The reports of the Recording Secretary, Francis W. Goss, and the Treasurer, Dr. Draper, were presented.

At the last annual meeting a resolution offered by Dr. Asa Mullet, providing for more stringent relations regarding the

ADMISSION OF CANDIDATES

to the Society, was submitted to the consideration of a committee. Yesterday the committee reported adversely on the adoption of the resolution, and the report was adopted without debate.

A series of resolutions which have been adopted by superintendents of the various American institutions for the insane, petitioning Congress to pass a law prohibiting the

EMIGRATION OF THE DEFECTIVE CLASSES,

were adopted. The resolution set forth that while those persons who have emigrated to this country since 1847 compose with their descendants but one-eighth of the population, they furnish one-third of the paupers, one-third of the criminals, and one-third of the insane.

DR. JOHN O. MARBLE, of Worcester, then read a paper on

CREMATION IN ITS SANITARY ASPECT.

He urged the necessity of the universal adoption of cremation, and proved its superiority over all other methods of disposing of the dead, by a clear exposition of the great evils attendant upon them, referring of course particularly to the ordinary method of graveyard interment.

DR. WILLIAM L. RICHARDSON, of Boston, read a paper on the

DIAGNOSIS AND TREATMENT OF OCCIPITO-POSTERIOR POSITIONS.

He dwelt upon the great value of external palpation in the diagnosis of fœtal positions, and briefly described the method. He then described his method of flexing an extended head, by applying the forceps inverted.

DR. JOHN HOMANS, of Boston, then read a paper upon

THE INFLUENCE OF OVARIOTOMY ON SURGERY,

which was of great interest. He traced the progress which has been made in ovariotomy since it was first practised in 1809, and showed how out of it so many, if not nearly all, of the valuable abdominal operations of modern surgery had grown. He also spoke of the comparative innocuousness of simple abdominal incision the future which may be in store for it as a diagnostic and therapeutic measure.

DR. FRANKLIN K. PADDOCK, of Pittsfield, at 12 o'clock delivered

THE ANNUAL DISCOURSE.

He gave an interesting review of the history of wound treatment, and a clear concise description of the modern antiseptic method. He said, that although known to those of the members who had favorable opportunities of becoming familiar with and practising it, there are many members who do not make use of the antiseptic method, and perhaps even a few still who regard it with scepticism. He therefore felt called upon on this fitting occasion to urge upon the members the necessity and duty of adopting it.

A vote of thanks was given the speaker, after which the Fellows of the Society called in order of seniority, and headed by President Homans, marched to

THE DINNER.

## MEDICAL SOCIETY OF NEW JERSEY.

*One Hundred and Nintieth Annual Meeting, held at Long Branch, June 9 and 10, 1885.*

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 9TH.—FIRST DAY.

The Society met in the dining-room of the Ocean House and there were one hundred and twenty-five members present, all the district societies being represented. There were also present Dr. Beckwith, delegate from the Medical Society of Connecticut, Dr. Anita E. Tyng, from the Medical Society of Rhode Island, Drs. E. S. F. Arnold, John P. Garrish, from the New York State Medical Association, Drs. W. R. Hoch, Albert Fricke, M. P. Hara, from the Medical Society of Pennsylvania.

DR. S. H. HUNT, as Chairman of the Committee of Arrangements, extended a cordial welcome to the members to Long Branch. He extolled the attractions of Long Branch and spoke enthusiastically of the new and successful winter resort.

DR. BUSBY, delegate to the Pennsylvania Medical Society, and DR. J. N. QUINBY, delegate to the American Medical Association, read their reports.

The Committee on Ethics reported no business.

The following committees were appointed:

*Committee on Treasurer's Accounts.*—Drs. J. G. Ryan, E. A. Marsh, D. C. English.

*Nominating Committee.*—Drs. Jas. S. Green, Chairman; E. North, D. A. Currie, Jos. Parrish, E. L. B. Godfrey, G. G. Carroll, W. F. Newell, Jos. Fewsmith, Jr., Geo. C. Laws, J. Paul, W. S. Creveling, J. L. Bodine, A. V. N. Baldwin, H. G. Norton, J. G. Rynson, R. L. Disbrow, W. K. Newton, L. W. Reed, C. R. P. Fisher, Douglas I. S. Clark.

Society adjourned until 7.30 P.M.

EVENING SESSION.

VICE PRESIDENT, DR. PARRISH, announced as the first order of business

THE ANNUAL ADDRESS,

by the PRESIDENT, DR. P. C. BARKER, of Morristown. His subject was, the *Present Status of the Germ Theory of Diseases.*

The address was a careful digest of our knowledge on this subject at the present time. He spoke of it as the Romance of Medicine, traced the origin of sanitary science, its progress and the many effects its development has had on our civilization. He pictured the condition of England during the visits of the plague, and the effect upon the world's history caused by epidemics. He then gave a succinct history of the origin and development of the theory. The first steps were taken when chemists commenced the study of ferments and fermentations. These phenomena suggested similar causes for disease to Boyle two hundred years ago. Then came the study of the causes of putrefaction and the experiments of Pasteur and Schroeder, and later, the discovery of the rods of splenic fever by Rayer and Davaine. After this came Lister and his wonderful revolution in surgery and surgical dressings. He then described minutely the different processes of liquid and dry cultivations, and the laws of life and conditions that are favorable or unfavorable to the various microorganisms. He used Colui's classification in describing these minute organisms, detailed the manner and means for examining microscopically and the effects of reagents. He further discussed the bacilli of cholera and tuberculosis, and Drs. Koch's and Ferrán's researches in cultivating and inoculating, respectively. He then gave a *résumé* of the logical deduction from this theory, and the lessons taught by recent epidemics and urged by sanitary science for the prevention of these diseases.

THE ANNUAL REPORT OF THE STANDING COMMITTEE

was then read by its Chairman, DR. T. J. SMITH. This report embodied those of the different medical societies in the State, and recorded the diseases which had prevailed in the several districts, and whatever was of interest to the profession in their various neighborhoods.

The report of the Treasurer, Dr. Phillips, was read and referred to the Committee on Treasurer's Accounts.

The report on *Medical Jurisprudence* was read by Dr. Godfrey, Chairman of the Committee.

THE REPORT OF THE CORRESPONDING SECRETARY,

DR. ELMER J. NEWTON, included the answers of the various county societies to the circular of the State Society regarding preliminary education. All approved the proposed change in the by-laws requiring a certain standard of education preliminary to beginning the study of medicine, and many societies indicated that they had already instituted such regulations in their respective counties.

WEDNESDAY, JUNE 10TH.—SECOND DAY.

MORNING SESSION.

DR. JOHN W. WARD, of the Trenton Asylum, read a paper on

GENERAL PARESIS.

This disease has obtained comparatively recent recognition, and the general practitioner is urged to, if possible, recognize the disease in its incipiency, because it presents a much more favorable chance for benefit from treatment. Although written of as early as the seventeenth century, it was not believed to be a disease *per se*, but a complication of insanity. Statistics show that the disease is on the increase.

It is divided into three stages: 1st, that of fibrillar tremblings; 2d, muscular incoördination and mental enfeeblement; 3d, advanced paresis and entire paralysis with complete loss of mind. The disease is first detected by the commission of some actions much at variance with the patient's character. Then the motor symptoms show themselves unmistakably, and advance step by step with the mental symptoms. The writer considers the disorder is always preceded by a period of melancholia. The first stage is marked by an inability to coördinate the movements of the tongue and slight loss of consciousness, with unusual acts of absentmindedness. The second stage is simply an exaggeration of the first. Ideas of an exalted and extravagant character supervene, and these delusions are characteristic. The mental symptoms may have an almost entire cessation for a short period, but the motor manifestations do not remit, and the general health is not much deteriorated. The third stage is usually ushered in by one or more epileptiform seizures, and a depreciation of the general condition commences, which is progressive in character, and accompanied by a loss of coördination and an absolute loss of mind. Treatment, if ever beneficial, may be so in the beginning of the first stage. The disease is to be differentiated from muscular atrophy, lead poisoning, mercurial poisoning, and locomotor ataxia. These diseases have characteristics which render them not likely to be mistaken. It is usually confined to middle life, more common in men than women and is probably not hereditary. Sexual excess is probably an important etiological factor, although writers are not agreed as to its influence. Some cases show meningeal thickening and adhesions to the skull, others show changes in the gray matter of the brain and the medulla oblongata and upper part of the spinal cord, but there are no characteristic pathological changes.

The prognosis is uniformly bad, as no authentic cases of recovery can be cited. The average duration of the disease is about three years from the time of observance of the first symptoms, but death usually occurs from some intercurrent disease. Treatment has thus far availed nothing. The administration of the bromides as the indications demand, is probably the best. The author has given ergotine a trial with no satisfactory results.

DR. JAMES, the appointed essayist, was prevented from being present at the meeting on account of serious illness. It was voted that he be requested to place a copy of his paper, *Toleration in Medicine*, in the hands of the proper committee for publication in the *Transactions*.

THE JUDICIAL COMMITTEE

recommended that the circular in regard to membership of the American Medical Association, be published in the *Transactions*, also, that the proposed "Act to Establish State Board of Medical Examiners and Licensers," received from the American Medical Association, be referred to the Committee on Education, and that in reference to the communication from the Nebraska Society, the Corresponding Secretary reply that the exchange of reports would seem to cover the objects sought by the scheme proposed. The report was, on motion, adopted.

THE COMMITTEE ON EDUCATION

made an exhaustive report as to "what is feasible to test the competency of graduates of various medical colleges, who hereafter seek to settle in this State," ending with the following propositions:

1. That the power of licensure to the practice of physic and surgery in this State ought to be separated from the function of teaching, and be invested in some authority within the State.

2. That, in the opinion of this Society, the Governor of the State is the proper authority in whom this power should be invested.

3. That in order that this power may be intelligently exercised, all persons whatever seeking to practise physic and surgery in this State, before licensure by the Governor, ought to be thoroughly, carefully, and impartially examined by a competent medical board, who should require the usual evidences demanded by colleges of the first class, of previous study, etc.

4. That it is the opinion of this Society that the board of examiners should be composed of seven of the members of the Medical Society of New Jersey, who have been in practice not less than five years and have received the degree of Doctor of Medicine, selected by the Governor from a list of twelve persons nominated by the said Medical Society.

5. If the appointment of such a board be not feasible, this Society will not disapprove of the formation of two boards appointed from the two Medical Societies of the State, providing that the qualifications in Article III. be required of every applicant.

6. This Society does not approve of a mixed board of persons holding antagonistic theories of medicine, etc.

7. That this Society does not deem it expedient for this Society, in its corporate capacity, to make application to the Legislature of the State for an amendment to its Act of incorporation to accomplish the object contemplated, but would respectfully recommend the State Board of Health to take measures to bring the subject to the consideration of the Legislature. Action on this report was postponed one year.

THE STANDING COMMITTEE

reported the following amendment to By-Law, Chapter III.

*Board of Examiners.*

*Sec. 1.*—The Standing Committee shall appoint at the Annual Meeting each year two Boards of Examiners, one for the Northern and one for the Southern District of the State. Each Board shall consist of five members to be selected from among the members of the district societies of the respective portion of the State.

*Sec. 2.*—The Northern District shall comprise the counties of Bergen, Passaic, Sussex, Warren, Morris, Essex, Hunterdon, Hudson, Union, and Middlesex. The Southern District, the counties of Monmouth, Mercer, Ocean, Burlington, Camden, Gloucester, Atlantic, Salem, Cumberland, and Cape May.

*Sec. 3.*—It shall be the duty of the Board to examine the credentials and qualifications of all persons contemplating the study of medicine in the State. Every applicant shall be required to present to the Board a diploma from some reputable college, or a certificate of a completed course of study in a reputable school where the following branches of learning and science have been taught, viz., English language and literature, and history. Mathematics including arithemetic, algebra, and geometry. Latin language, including its grammar, and ability to translate with facility the books of the Commentaries of Cæsar, the Orations of Cicero, and two books of Æneid of Virgil. Greek language, including its grammar, the Anabasis of Xenophon, and two books of the Iliad of Homer. Intellectual and moral philosophy, logic, rhetoric, descriptive and physical geography, and the elements of physics, chemistry, and natural history, including botany and zoölogy. In case the applicant possesses no such diploma or certificate, the Board shall proceed to examine him in these branches. The Board shall also require evidence of certificate or otherwise as to the moral character of all applicants. If the examination is satisfactory, a certificate shall be given by the Board to the applicant, commending him as a suitably qualified person to be received under the care of a physician for medical instruction.

*Sec. 4.*—The Boards shall meet on the first Tuesday in March and September of each year, the Northern Board in Newark and the Southern Board in Camden.

*Sec. 5.*—An allowance of ten dollars per day, when in session, shall be paid by the Treasurer of the Society on the order of the President of the Board to each member of the Board for his services.

*Sec. 6.*—These Boards shall report through their Presidents to the Standing Committee each year, at least one week prior to the annual meeting, giving the number of days in session, the number of applicants examined, and the results of the examinations.

*Sec. 7.*—Each district society shall provide in its by-laws that its members obligate themselves, under penalty

of forfeiture of membership, to receive no person under their care as a student of medicine who has not passed the necessary examination, and received the approval of one of the Boards of Examiners of this Society.

*Sec. 8.*—Any member of a district society may, however, receive a student of medicine during the interim of the meetings of the Board, provided that he notify the President of the Board of Examiners for his district that he has received such student. But all students so received shall appear before the Boards of Examiners at their first meeting thereafter, and obtain the certificate required.

On motion, the report was received and referred to the next annual meeting.

THE COMMITTEE ON TREASURER'S ACCOUNTS

reported that they had examined the said accounts, and found them correct, as follows:

| | |
|---|---|
| Receipts for 1883 | $262.19 |
| From district societies | 1124.00 |
| Interest on U. S. bonds | 62.00 |
| | 1448.19 |
| Disbursements paid as per vouchers | 614.77 |
| Balance, | $833.42 |

The Committee further stated that the Treasurer reports:

| | |
|---|---|
| U. S. 4 per cent. registered bonds at par value | $1550.00 |
| Amount in Newark Savings Bank | 182.85 |
| Total, | $1732.85 |

The Committee recommend: 1. That the Treasurer be instructed to purchase for the Society, out of the funds in his hands, one $500 U. S. 4 per cent. registered bond, and that he shall present all the assets in his possession for examination at each annual meeting. 2. That the Treasurer be instructed to renew his bond for five thousand dollars. 3. That the assessment of the district societies be $1.50 per capita.

The report was adopted.

DR. WICKES on behalf of the Committee on

REVISION OF THE BY-LAWS,

read its report.

The report was adopted and the Committee instructed to have 1000 copies printed in pamphlet form.

The Business Committee gave as the

SUBJECT FOR DISCUSSION

at the next annual meeting, *The Therapeutical Action of Hydrochlorate of Cocaine.*

THE NOMINATING COMMITTEE

presented the following report:

*President.*—Joseph Parrish, M.D., of Burlington.

*Vice-Presidents.*—Charles J. Kipp, M.D., of Newark; John W. Ward, M.D., of Trenton; H. Genet Taylor, M.D., of Camden.

*Corresponding Secretary.*—Wm. Elmer, Jr., M.D., of Trenton.

*Recording Secretary.*—Wm. Pierson, M.D., of Orange.

*Treasurer.*—W. W. L. Phillips, M.D., of Trenton.

*Standing Committee.*—T. J. Smith, M.D., E. J. Marsh, M.D., D. C. English, M.D.,

The Committee recommended that the *Next Annual Meeting* of the Society be held at Spring Lake, Monmouth Co., on the second Tuesday of June, 1886.

The report was adopted.

The Society adjourned to meet at Spring Lake on the second Tuesday in June, 1886.

## MAINE MEDICAL ASSOCIATION.

*Thirty-third Annual Meeting, held at Portland, June 9, 10, and 11, 1885.*

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 9TH.—FIRST DAY.

MORNING SESSION.

THE Association met at 10 o'clock, in the Common Council Chambers, City Building, and was called to order by the PRESIDENT, DR. T. A. FOSTER, of Portland.

THE TREASURER'S REPORT.

DR. A. S. THAYER reported on hand at last annual report $618.47. The receipts from new members, annual tax, sale of *Transactions*, and dividends increase this to $1166.12. Cash has been paid out for necessary expenses $448.78, leaving in the hands of Treasurer, $717.34.

COMMUNICATIONS

relative to the immigration of the defective classes, from the President of the American Association of Insane Hospital Superintendents, and one on preliminary education for medical students, from the New Jersey Medical Association, were referred to the Board of Censors.

A letter from the Nebraska Medical Society, relating to a system of interstate medical society representation, was referred to a committee of three for a report at the session of 1886.

A committee consisting of Drs. A. T. Fuller, of Bath, J. B. Walker, of Thomaston, and Sumner Laughton, of Bangor, was appointed to visit

THE MAINE INSANE HOSPITAL

on behalf of the Association.

DR. A. T. FULLER, of Bath, presented the

REPORT OF VISITORS TO MEDICAL SCHOOL OF MAINE.

They stated that their visits to the School during the past term had been frequent and thorough. No criticism could be made upon the instruction afforded or the scholarship of the graduating class. The new plan of formal graduating exercises was commended. The committee expressed itself as opposed to the plan of yearly examinations now in vogue.

DR. CHAS. R. CRANDALL, of Portland, read a paper on

ABDOMINAL SURGERY: ITS GROWTH AND TRIUMPHS.

DR. S. C. GORDON, in the discussion following this paper, reported a case of hemorrhage from the kidney consequent upon injury. The patient, while working beneath a car, suddenly straightened up and struck his back, over the left kidney, against a projecting bolt. This was followed by severe pain and free hemorrhage, and the expulsion of clots evidently from the ureters, often ten and twelve inches in length. Several of these clots were declared, by certain botanic practitioners who

attended him, to be "palisade worms" of the kidney. He gradually recovered in part, and has for the past year and a half been subject to repeated hemorrhages, often to the amount of a quart at a time. Life has become a burden to him, and he is ready for anything that promises relief. He proposed to make nephrectomy through an abdominal incision, and considered this a favorable case for such operation.

DR. S. H. WEEKS would operate by lumbar incision along the lower border of the last rib, four or five inches forward, as in Bryant's operation, if the operation were for other than cystic disease; in that case, he would use laparotomy.

### AFTERNOON SESSION

DR. T. A. FOSTER, of Portland, delivered the

### PRESIDENT'S ADDRESS,

in which he outlined the growth of the Association, and defined its relations with other organizations. An organization like this is like an individual: its separate members, its tissues, which through segregation form the organs through which its various functions are manifested. It has its emotions and passions to be checked, its reasons and judgments to be tempered with justice, its ossified or crystallized ideas to be melted in the crucible of liberal investigation, its hereditary superstitions to be swept away by a more common-sense view of things; it has also its element of passiveness, its tendency to inactivity, its lack of self-respect. Unless the proper adjustment of its internal relations is maintained, it will be difficult to attend to the adjustment of its external relations. The relations of the Society and its members to other societies, trades, and professions, were shown by carefully arranged tables; one of these gave the name, residence, and school of practice, and classification into counties. In Maine there are 879 recognized physicians, a decrease of 100 in four years. In Cumberland County, the most populous, the ratio of physicians to the public at large is 1 to 585; while in Aroostock County it is 1 to 1263. There are 693 regular physicians in the State; of these 257 are members of this Association. It was recommended that measures be taken to increase the membership.

The speaker considered the relations of the Society to the question of codes and charlatans, which were both best let alone; to the retail druggist, and the profession at large, the institutions for medical instruction, and the legal profession; with regard to the latter, it might be said that in no direction were these of more importance than in the legislative halls. Physicians, as a rule, are poor lobbyists, and numbers of them in a body seem to have a terrifying effect upon legislative committees. More could be accomplished in securing medical legislation by laboring with members at home prior to sessions. A State Board of Health has, after years of struggle, been secured; how long it will require to secure a registration act remains to be seen.

Of the relations of the medical profession to the press, the speaker said: "So far as it touches our profession, it is strongly in favor of irregular practice and quack medicines. Doubtless this results from its adopted rules of action based upon business principles. The community is evidently highly sensational, it demands startling news, it loves humbuggery, and never is so well satisfied as when thoroughly imposed upon. The successful reporter is he who bores the hardest and always brings oil, either from his boring or his imagination. On this rule charlatanry is based, hence the natural sympathy between it and the press. The rule of action of the regular physician is modest and consistent secrecy, and when through the action of the press, or in any other way, this rule is broken, as it was to a marked degree in Garfield's case, and has so recently been to a most mortifying degree in the case of General Grant, we can but feel that a lasting injury, if not disgrace, comes to the profession."

Relations with irregular practitioners are easily enough adjusted; retaliation upon such elevates them to our footing and degrades us to theirs. Relations to the general public may be considered under three heads: with the wealthy, with the honest poor, and with the criminal classes. From the rich we must look for and demand the fullest reward for our services, from the poor be not too eager to exact the pound of flesh. All over the country, the criminal classes are made the special objects of sympathy by an army of so-called philanthropists. Crime is thus cultivated as surely as the farmer cultivates his crops of corn and potatoes, and this mass of criminals are to the body politic what undigested food and effete matter are to the individual. Philanthropy acts as an opiate and the tardy and ineffectual operations of the law is like habitual constipation.

Such seed is sown broadcast and encouraged by the legal marriage of the criminal classes, not only outside but inside of jails, penitentiaries, and workhouses; as an organization, the profession should protest against such proceedings.

In no way should the physician assume the duties of the lawyer in dealing with crime, neither should he act the clergyman in his attempts to prevent sin, but he should be found in the front ranks of true moralists, realizing the fact that vice in all its forms invites disease.

DR. JAS. A. SPALDING, broached a plan for the formation of a

### PHYSICIANS' MUTUAL AID SOCIETY,

similar to that in operation in New York, and the matter was referred to a special committee, which subsequently reported asking a continuation of the question till next year. It was deferred.

DR. B. T. SANBORN, Superintendant of the Maine Insane Hospital, read an interesting paper on

### ACUTE MELANCHOLIA.

The conclusion was as to treatment, that diversion and employment afforded the strongest hope of successful treatment.

### OPERATION FOR EXTERNAL URETHROTOMY.

DR. E. H. HILL, of Lewiston, detailed a case of operation after removal of an epithelioma of the penis. No meatus could be found. At the peno-scrotal junction, without a guide, the canal was opened, and a grooved staff introduced into the bladder. The tissues were divided from the centre of the perineum forward to the opening with one sweep of the knife. The urethra was dissected and detached from the cavernous bodies, and transversely divided. Its free extremity was brought to

the upper commissure of the perineal wound, and its longitudinal edges stitched to the skin, leaving exposed a urethral opening fully one inch in length. The cavernous bodies were transfixed with a knitting-needle to prevent retraction of the stump, the better to secure any bleeding vessels, and to make two curvilinear incisions, one on each side at the root of the penis, beginning in the median line at about one and a half inches above the pubes and ending a little above the penoscrotal junction, and to sever the organ with scissors. The actual cautery was applied, the fold of skin brought over the stump, united, and a drainage-tube inserted. Catheter was required for only two days. The patient lived a little over a year, and succumbed to a return of the disease.

DR. S. C. GORDON, of Portland, described

A NEW PERINEAL OPERATION,

having for its object a lessening of the calibre of the vagina, as well as restoration of the perineal body. This was accomplished by making a U-shaped denudation having the perineum for its base, and its arms extending up the sides of the vagina. Then with a single needle armed with No. 1 or No. 2 catgut, beginning at the extremity of one of the arms, the denudation is closed by continuous suture to the base; this is repeated on the other side; finally, the perineal denudation is closed. Thus the vagina is at once shortened and contracted. He would not use wire sutures unless there was extreme uterine retroversion. Then he puts in place a pessary, and makes the operation outside.

EVENING SESSION.

DR. F. H. GERRISH read a paper on

MORPHINE AS A SUBSTITUTE FOR HANGING, IN THE EXECUTION OF CRIMINALS.

The following resolution was introduced:

"*Resolved*, That in the opinion of the Maine Medical Association, the execution of criminals by hanging should be abolished, and poisoning by the hypodermic injection of morphine substituted therefor."

After a somewhat rambling discussion on the merits of capital punishment, the resolution, which had not been discussed, was laid upon the table.

DR. I. T. DANA read a paper dealing with

CHRONIC BRIGHT'S DISEASE,

more particularly referring to treatment by fulfilling certain indications: 1. To avert hyperæmia and inflammation of the kidneys. 2. To unload obstructed tubules. 3. To build up the blood and promote nutrition. 4. To improve the condition of the nerve-centres. 5. To promote elimination of urea and other excrementitious elements from the blood. 6. To evacuate dropsical accumulations. 7. To sustain the heart. 8. To relieve distress from dyspnœa.

WEDNESDAY, JUNE 10TH.—SECOND DAY.

MORNING SESSION.

DR. A. S. THAYER reported cases of

ACUTE RHEUMATISM TREATED BY ADMINISTRATION OF SALICIN.

DR. C. O. HUNT favored topical application of salicylic acid in olive oil, in the proportion of two drachms to an ounce, when the stomach revolted.

DR. S. P. WARREN advocated oil of gaultheria, one-half drachm in water and glycerine every two hours.

DR. H. F. TWITCHELL, of Freeport, reported

A CASE OF PLACENTA PRÆVIA CENTRALIS,

arguing as a cause a fall received six weeks after cessation of menstruation.

PROF. ALFRED MITCHELL, of Brunswick, did not favor the theory of causation. In cases of placenta prævia, he would turn by the bipolar method, and allow nature to complete delivery slowly.

DR. BOARDMAN, of Boston, said his experience was, that premature labor should be induced and completed without delay. He thought it a great mistake to wait, and had known of six cases of fatal hemorrhage within a short time from mistaken waiting, and relying on stimulation to prepare the patient for the operation. Such surgical obstetrics he did not believe in: while waiting for the woman's strength to return, death comes in its stead.

DR. E. E. HOLT, of Portland, read a paper based upon his first series of

100 CASES OF CATARACT OPERATION.

Special reference was made to causation. The history of the growth of the lens was illustrated by diagrams, and its bearing upon the formation of cataract pointed out. Methods of operating and bandaging were illustrated upon a mask. The discovery of Kohler, in producing anæsthesia by cocaine hydrochlorate, has been of more value to ophthalmology than any other since the invention of the ophthalmoscope.

THE COMMITTEE ON REMOVAL OF THE MAINE MEDICAL SCHOOL

reported that they had conferred with the committee from the Faculty of the School, Alumni Association, and Trustees of Bowdoin College, that the sentiment was favorable, but it would necessarily be referred to the Trustees for further action.

THE COMMITTEE ON INVITATION TO THE AMERICAN MEDICAL ASSOCIATION

to hold the meeting of 1886 in Portland reported that, from inability to raise a sufficient fund to cover estimated expenses it was thought best, after consultation with the President and Chairman of the Censors, to report action inexpedient. The report was accepted.

THE ELECTION OF OFFICERS

resulted as follows:

*President.*—Sumner Laughton, M.D., of Bangor.

*Vice-Presidents.*—C. G. Actams, M.D., of Portland; F. E. Hitchcock, M.D., of Rockland.

*Permanent Secretary.*—Charles D. Smith, M.D., of Portland.

*Treasurer.*—A. S. Thayer, M.D., of Portland.

*Corresponding Secretary.*—J. C. Caldwell, M.D., of Buckfield.

*Board of Censors.*—Geo. H. Cummings, M.D., of Portland; B. F. Sturgis, M.D., of Auburn; E. Adams, M.D., of Litchfield; H. E. Hill, M.D., of Saco; A. L. Hersey, M.D., of Oxford.

DR. S. H. WEEKS made some extended remarks upon the symptoms, diagnosis, and treatment of

FRACTURES OF THE NECK OF THE FEMUR.

Two interesting specimens were exhibited, one of an intracapsular fracture, showing bony union; the other impacted fracture, also intracapsular. In the latter case no symptoms or signs of fracture could be detected for two weeks after the injury, although the subject was a hospital patient and under constant observation. In the discussion, Dr. Oakes, of Auburn, advocated the plaster-of-Paris dressing as valuable in allowing patients to get up from the bed at once and escape the debilitating confinement consequent upon the usual mode of dressing.

DR. CHARLES D. SMITH, of Portland, exhibited a specimen of comminuted intracapsular fracture extending from behind upward and forward, and involving nearly one-third of the head. This was removed from a man seventy-nine years of age, who died one week after injury, never having rallied from the shock. The injury was received by a fall forward upon all fours, and when seen one hour afterward presented the unusual symptom of *marked inversion* of the foot; the great trochanter formed a prominent protuberance on the front of the thigh; crepitus could not be detected at the post mortem; the capsule was found much lacerated, and pus within and without the joint.

DR. ALLEN, of Camden, read a paper on a case of *Displaced Ovary and Phantom Tumor.*

DR. S. C. GORDON reported

CASES OF TAIT'S OPERATION.

He doubted the ability of any one invariably to detect disease by conjoined touch; in his experience he had always depended upon other symptoms than touch, and his diagnosis had been abundantly proven by other symptoms.

DR. BOARDMAN thought the value of Tait's operation could not be overestimated; it should, however, be restricted to cases of demonstrable disease, and with this view exploratory incision might be made, and would be perfectly justifiable.

DR. J. O. WEBSTER, of Augusta, read a paper based upon

HEALTH STATUTES,

passed by the last legislature of Maine. Its conclusions were:

1. A local board of health should be established in every city and town of considerable size.

2. It should be an independent board, not containing any other municipal officers ex-officio, all its members to be elected with sole reference to their fitness for this work.

3. The members of the board, or its executive officer, if it have one, should receive reasonable compensation.

4. Such local health regulations as the board may find necessary, in addition to their powers under the State law, should be adopted as by-laws or ordinances by the town or city.

EVENING SESSION.

DR. S. H. WEEKS, of Portland, delivered

THE ANNUAL ORATION,

an able effort devoted to a *Review of Modern Medicine*, the essentials for success in its practice, and forecasting what remains to be done.

While progress has been made in the pathology and management of most diseases, especially of those affecting the kidneys, heart, and lungs, what marked gain has there been in curing and preventing disease during the present century at all analogous to that discovery by Jenner in the last?

The father of medicine taught that deep-seated cancers have a fatal termination sooner when meddled with than when left to themselves. What better prediction can be made after an experience of two thousand years? One-half the human race continues to die in infancy and early childhood. Phthisis in all nations still destroys one-sixth of all who die. Cholera continues to spread, and yellow fever bids defiance to the resources of medical skill. Diphtheria still desolates the families of rich and poor. Bright's disease and valvular lesions of the heart are still incurable.

General paresis saps mind and life; locomotor ataxia totters and stumbles into the tomb; and typhus and typhoid fevers, measles, and scarlatina run their accustomed course, modified, but not cut short a single hour. And to-day our best medical authorities admit that, while contagious and infectious fevers, and other self-limited diseases, may be watched and guided, they cannot always be cured. It is hoped this will not always remain true.

Medicine can only advance by the education of the profession; the development of a higher standard has and will keep pace with that of every other phase of human life.

A warm tribute was paid to the ability represented by the new State Board of Health, finally obtained after years of labor; and the hope expressed that its efforts, aided by those of this Society, may produce a rich harvest.

At the close of the oration, the members, their ladies, and delegates from other societies, were entertained at a reception given by the retiring President, Dr. T. H. Foster. Members of the Association, and delegates were also entertained by Dr. E. E. Holt, at his residence on Congress street.

THURSDAY, JANUARY 11TH.—THIRD DAY.

CLOSING SESSION.

Dr. Chas. D. Smith, of Portland; Sumner Laughton, of Bangor; and J. C. Caldwell, of Buckfield, were appointed a committee on

INTERSTATE REPRESENTATION.

DR. F. H. GERRISH, chairman of committee to obtain a

STATE BOARD OF HEALTH,

reported that a satisfactory law had been passed. The Board organized and work has begun.

The Board is made up of Dr. F. H. Gerrish, of Portland, Chairman; Dr. C. E. Young, of Augusta, Secretary; Dr. J. O. Webster, of Augusta; Dr. O. A. Horr, of Lewiston; Hon. S. J. Young, of Brunswick; Hon. Lewis Barker, of Bangor; E. C. Jordon, Esq., of Portland.

The law establishing this Board has been secured by the efforts of the Maine Medical Association acting alone, with little or no help from the public, and the Committee which, after years of trial and discourage-

ment, have finally accomplished the object, was composed of Drs. F. H. Gerrish, of Portland; S. H. Weeks, of Portland; J. M. Bates, of Yarmouth.

The Committee appointed to consider the

RECOMMENDATIONS OF THE PRESIDENT'S ADDRESS,

reported that, without reference to the indiscriminate refilling of prescriptions by retail druggists, a committee should be appointed to devise some method of prevention, and report in 1886; a recommendation was also made to increase the number of representatives to other State societies as deemed advisable.

A new committee on the

MEDICAL REGISTRATION BILL

was appointed, with Dr. J. M. Bates as Chairman.

The date of the *next annual meeting* was fixed for June 1, 1886, and the place Portland.

LECTURESHIP ON PUBLIC HYGIENE.

DR. J. O. WEBSTER offered the following resolutions, which were adopted without dissent:

*Resolved*, That, in the opinion of this Association, a Lectureship on Public Hygiene should be established in the Medical School of Maine, with an annual course of not less than six lectures.

*Resolved*, That the Secretary send copies of this resolution to the Trustees of Bowdoin College, and the Faculty of the school.

After the usual votes of thanks, the Association adjourned.

## CORRESPONDENCE.

### THE INTERNATIONAL SANITARY CONFERENCE AT ROME.

ROME, May 30, 1884.

THE International Sanitary Conference has now been in session for ten days, and it is evident that notwithstanding the warm weather and the general desire to get away from Rome as soon as possible, there is little prospect of adjournment before the middle of June.

The following countries are represented either by one or more technical delegates, or by a diplomatic delegate, or by both, viz.: Germany, Argentine Republic, Austria, Belgium, Brazil, Chili, China, Denmark, Spain, United States, France, Great Britain, Greece, Guatemala, India, Italy, Japan, Mexico, Holland, Peru, Portugal, Roumania, Russia, Servia, Sweden and Norway, Switzerland, Turkey, and Uraguay.

The names of many of the technical delegates are quite unknown in our country, but the names of a few of those who are most prominent, and who exercise the most influence in the Conference may be mentioned.

It is proper to say first that the Conference was organized by the election of the Italian diplomatic delegate, Cadorna, as President. No vice-presidents were elected, the President being authorized to name a presiding officer for the day in case of his inability to attend the session.

S. Exc. le Chev. Cadorna, President of the Council of State, Minister of State, Senator, etc., is an old gentleman who may be an accomplished diplomat, but who was evidently not equal to the task of directing the discussions of the technical delegates present, and this for several reasons, the principal one being that he does not understand either English or German, and that several of the delegates speak only in one or the other of these languages. Thus the English delegates, with the exception of Dr. Thorne, who speaks French quite fluently, use their own language in addressing the Conference. Dr. Koch and the delegate from Austria, Dr. Hofmann, always speak in German, the Spanish delegate makes flowery speeches in pure Castilian, while one of the Italian delegates makes it a point to address the Conference in his native tongue. With a President who understood only the Italian and the French, the Conference was like a ship at sea without a rudder.

Fortunately this difficulty had been anticipated, and by a preconcerted arrangement a subsection, comprising the technical delegates alone, was at once organized, with the accomplished Dr. Moleschott as president. It would be difficult to find another man equally qualified for the position. Originally from Holland, Dr. Moleschott has been for many years engaged in the practice of medicine in Rome. He is a professor in the University of Rome, a life-senator of Italy, and a man of varied acquirements, scientific and literary. But, above all, he is a polyglot; he understands, and speaks with facility, all of the languages above mentioned; and he has a happy faculty for giving a *résumé* in a few words, in French, which is recognized as the official language of the Conference, of a long winded address delivered in English, German, Spanish, or Italian. I should say here, that the longest address is limited to ten minutes, in accordance with a resolution introduced by Sir Joseph Fayrer, one of the delegates from India.

Dr. Koch, the delegate from Germany, both on account of his fame, and the respect with which his opinions are received by a majority of the delegates present, is perhaps the most prominent and influential member of the Conference. He has not made any long speeches, and has taken special pains to avoid all reference to his "comma-bacillus," not because he has lost faith in it, but as a matter of prudence. At his suggestion, and by common consent, it was agreed at the outset that all disputed questions relating to etiology should be avoided, and that the Conference should occupy itself entirely with practical questions relating to the prevention of cholera, and thus far all efforts to consider any other disease have failed, and there is a manifest intention on the part of the European delegates to confine the discussions to this disease alone. They intimate that questions relating to yellow fever and other epidemic diseases may be brought up later, if desired, but it is evident that they will not be willing to give any considerable time to their discussion, and that there will be a strong pressure for immediate adjournment as soon as the questions relating to the prevention of cholera have been disposed of.

The delegates from Great Britain are Sir W. G. Hunter, M.D., and Dr. Thorne Thorne, of the Local Government Board. The Indian government is also represented by two delegates, viz., Sir Joseph Fayrer, M.D., and Dr. T. R. Lewis, Surgeon in the English Army and Professor at Netley. The French delegates are Drs. Brouardel, Proust, and Rochard. Russia sends but a single technical delegate, Dr. Eck. From Portugal there is the accomplished Dr. Silva Amado, who was a

delegate to the Sanitary Conference of Washington, in 1881. The Spanish delegate is Dr. Taboada. Turkey is represented by Dr. Zohéros Pacha; Austria, by Prof. Hofmann; Holland, by Dr. Ruysch; Switzerland, by Drs. Sonderegger and Reali; Sweden and Norway, by Drs. Bergman and Dahl; Italy, by Drs. Baccelli, Moleschott, Semmola, and Buonomo.

The first working session of the subsection composed of technical delegates, was held on the afternoon of May 23d, and the ball was opened by the introduction, by the delegate from the United States, of the following proposition:

"Experience has demonstrated that land quarantines and sanitary cordons are impotent to arrest the progress of an epidemic of cholera; they are, therefore, unjustifiable."

After a full discussion, the wording of this proposition was changed, at the suggestion of M. Rochard, as follows:

"Land quarantines and sanitary cordons are useless."

This was adopted by a vote of twenty in the affirmative, against one negative vote, which was cast by the delegate from Turkey.

At the next session the delegate from the United States introduced the following proposition, which gave rise to a protracted discussion upon the subject of maritime quarantine, and developed the views of the leading delegates present upon this important question:

"An arbitrary time quarantine for vessels and persons arriving from cholera-infected ports is not justified by experience, is often attended with great inhumanity, and tends to prevent true sanitary progress."

The debate upon this proposition was renewed at the following session, but was terminated by its withdrawal in favor of a programme introduced by the French delegation, which approached the question in a different way. In withdrawing his proposition the delegate from the United States remarked that he was not disposed to deny the value of a rational quarantine, but that the proposition introduced by him, which had served as the basis of the discussion which had taken place, was in opposition to an "*arbitrary time quarantine for persons and vessels.*"

The programme submitted by M. Brouardel, of the French delegation, was as follows:

Measures to be taken against the propagation of cholera by ships ("*par voie de mer*"):

1st. Importance of the salubrity of ports. Information relating to the sanitary condition of ports of departure (endemic or epidemic diseases).

2d. *Ships at sea* ("*trajet*"). Disinfection on board; independence of physician; isolation of the sick; ports not infected, without sick. Special question, *The Red Sea.*

3d. *Port of entry.* Ships coming from ports not infected, without sick, not to be detained. Ships coming from a suspected port to be inspected, continuation of sanitary measures taken at the point of departure and during journey. Infected ships; debarkation and isolation of the sick and of the passengers; disinfection of vessels; ships transporting merchandise and rags; ships transporting pilgrims and troops. Special measures; return of pilgrims from Mecca; *Caspian Sea.*

This programme having been unanimously adopted as the basis for further discussion, and the importance of maintaining the "salubrity of ports" being admitted unanimously, the question relating to "information relating to the sanitary condition of ports of departure" was taken up. The following proposition, submitted by Dr. Silva Amado, was adopted:

"Consuls should be permitted to obtain information from the local sanitary authorities of ports and cities (*des villes principales*), so that they may be enabled to visé bills of health, and if necessary to give precise information by telegraph to their Governments." The vote upon this proposition was *Yeas*, 10; *Nays*, 2; declined to vote, 8.

As this proposition did not include the right to visit a ship about to sail, and as this was considered a point of extreme importance by the American delegates to the Washington Conference of 1881, the delegate from the United States introduced the following proposition:

"Consuls should be permitted to verify the exact sanitary condition of vessels about to sail for ports in the country which they represent by a personal inspection, or by an inspection made by a physician authorized to represent them." This proposition was made the order of the day for the next session, and upon the reassembling of the Conference was debated at length.

While most of the delegates admitted the propriety of such an inspection being made, there was great opposition to the form of the proposition which made it the duty of *Consuls* to make or cause to be made the inspection contemplated. The delegate from the United States therefore modified the proposition as follows:

"It is desirable that the exact sanitary condition of ships about to sail should be verified by a personal inspection made by a duly authorized agent of the country of destination." The vote upon this proposition was as follows: *Yeas*, United States and Italy, 2; *Nays*, Austria, Denmark, Spain, Japan, Holland, Roumania, Russia, Servia, Sweden, 9. Abstained from voting, Germany, Hungary, Brazil, France, Great Britain, India, Mexico, Portugal, Norway, Switzerland, Turkey, 11.

This vote shows clearly that the opposition which the National Board of Health met with in an attempt to obtain the consent of the various powers to a similar proposition, through their delegates to the Washington Conference, is as strong to-day as it was in 1881.

A vote was next taken upon a proposition, submitted by Dr. Silva Amado, to the effect that "the consul of the country of destination should have the right to *assist* at the sanitary inspection of a vessel destined for his country, made by the local sanitary authorities, in accordance with rules to be established by an international convention." This was passed by a vote of 8 affirmative, against 6 negative, with 8 abstentions. It is evident that a proposition which has received so little support from the technical delegates is not likely to be received with much favor by the diplomats, and will not form part of an international sanitary convention. Indeed there seems to be little prospect at present that the Conference of Rome will be any more successful than was that of Washington, of Vienna, or of Constantinople, in reconciling differences of opinion, and national jealousies and prejudices, to such an extent as to make an international convention practicable

ROME, June 3, 1885.

IN my last letter I referred to the disfavor with which the Conference received the proposition of the delegate from the United States, to the effect that the sanitary condition of vessels about to sail should be verified by a personal examination made by an authorized agent of the country to which it is destined. This question has again been brought before the Conference by the report of a special committee, and at last the propriety of such an examination has been recognized by a vote of 20 to 1. The first two paragraphs of the report referred to read as follows:

"I. From a sanitary point of view, it is necessary to distinguish two classes of vessels, those which have a physician on board and those which have not. We consider the latter as little ships (*petits navires*), whatever may be their tonnage or the number of their crew; whether they are propelled by steam or by sails."

"II. The captain of these vessels not provided with a physician—"*petits navires*"—should address himself to the *consul of the country to which his vessel is destined*, in order that his ship may be inspected by a physician before it is loaded, and for an examination of his passengers. This examination is independent of the inspection made by the local sanitary authorities."

The second paragraph above quoted, as reported by the committee, read, "The captain, etc., should address himself to *the consul of his nationality*." The delegate from the United States insisted upon changing this to the consul of the country of destination. This amendment was effected, and the paragraph adopted by a vote of 20 to 1.

At the session of May 27th, the delegate from the United States proposed that a committee should be appointed to consider the question of disinfection. This proposition having been favorably received, the President appointed the following committee: Sternberg (U. S.), Koch (Germany), Proust (France), Thorne Thorne (England), Eck (Russia), Semmola (Italy), and Hofmann (Austria).

At the first meeting of the committee the delegate from the United States, who had been named first by the President, proposed that Dr. Koch should be made the chairman of the committee. This was agreed to, and after several protracted sessions, the following report was unanimously adopted:

The committee recommends as means of disinfection against cholera:

1. Steam at 100° C. (212° Fahr.).
2. Carbolic acid, chloride of lime.
3. Aëration.

Carbolic acid and chloride of lime are to be used in aqueous solution:

*Weak Solutions:* Carbolic acid, 2 per cent.; chloride of lime, 1 per cent.

*Strong Solutions:* Carbolic acid, 5 per cent.; chloride of lime, 4 per cent.

These means of disinfection will be applied as follows:

I. For the disinfection of person the weak solutions should be employed.

II. For the disinfection of clothing, bedding (*des linges, des habits, des couvertures*), and other articles of this kind:

(*a*) destruction; (*b*) steam passed through the articles for one hour; (*c*) boiling for thirty minutes; (*d*) immersion for twenty-four hours in one of the weak disinfecting solutions; (*e*) aëration for three or four weeks, but only in case the other means recommended are inapplicable.

Articles of leather, such as trunks, boots, etc., should be either destroyed or washed several times with one of the weak disinfecting solutions.

III. Vomited matters and the dejections of the sick should be mixed with one of the strong disinfecting solutions, in quantity at least equal to the amount of material to be disinfected. Linen, clothing, bedding, etc., recently soiled by the dejections of the sick, which cannot be immediately subjected to the action of steam, should be at once immersed in one of the strong disinfecting solutions, and left for four hours.

IV. The dead should be enveloped in a sheet saturated with one of the strong disinfecting solutions, without previous washing of the body, and at once placed in a coffin.

V. Disinfection of merchandise and of the mails is unnecessary (steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros*).

VI. When cases of cholera occur upon a vessel at sea, the locality where the case occurs should be disinfected. The floors and walls of the cabin, or other locality, should be washed at least twice with one of the weak disinfecting solutions, and then exposed freely to fresh air.

In the case of objects of considerable value, which have not been in immediate contact with the sick, and which would be seriously injured by a rigorous disinfection, the physician on board may determine what measures are necessary to protect the sanitary interests of the vessel.

The bilge-water should be pumped out, and replaced by sea-water, at least twice at each disinfection of a vessel.

The *closets* should be well washed with one of the strong disinfecting solutions at least twice a day.

VII. If the drinking-water is open to suspicion, it should be boiled before it is used, and the boiling should be repeated, if it is not used, within twenty-four hours.

All suspected food should be destroyed, or at least recently cooked.

VIII. Hospitals should be disinfected by washing the floors and walls with one of the weak disinfecting solutions, by a subsequent free ventilation and cleansing, and finally by repainting. The wards to be disinfected should, as far as possible, be isolated from those in use.

The latrines should be disinfected at least twice a day by pouring into them the strong disinfecting solutions in quantity at least equal to the amount of the dejections received since the last disinfection.

IX. The clothing worn by physicians and attendants should remain in the hospital, and should be regularly disinfected.

Physicians and attendants should use the weak disinfecting solutions for washing their hands, etc.

When this report was submitted to the Conference there was some disposition to object to the limited number of chemical disinfectants recommended. Dr. Koch explained that it had been thought best to limit the recommendation to two of the most generally useful chemical agents, with the full understanding, how-

ever, that the list of reliable disinfectants could have been extended, and that other agents, such as mercuric chloride, were valuable under certain circumstances. He hesitated to recommend mercuric chloride, because of the danger attending its general use, and also because its disinfecting action was, to some extent, interfered with by the fact that it entered into combination with albuminous material, and thus failed to come in contact with germs enclosed in albuminous masses.

The delegate from the United States remarked that he had not come to the Conference prepared to endorse carbolic acid in preference to mercuric chloride, but that he was in full accord with the other members of the Committee on Disinfectants, as to the propriety of limiting the recommendations to two chemical agents, and that he had accepted carbolic acid as one of these upon the high authority of Dr. Koch, who, from recent experiments, was convinced that for disinfecting the dejections of cholera patients, this was one of the most reliable agents, and that in the proportion of five per cent. it could be safely recommended for this purpose. Dr. Sternberg acceded the more readily to this, inasmuch as Dr. Koch, upon the strength of experiments recently made in the United States, made no objection to placing chloride of lime beside the disinfectant which his own recent experiments had induced him to consider with especial favor. As to mercuric chloride, the delegate from the United States remarked that he considered the danger attending its use to be greatly exaggerated, and that he should continue to recommend it for certain purposes, and especially for washing surfaces, soiled linen, etc. In dilute solutions the metallic taste would prevent the swallowing of a fatal dose, and it was perhaps no more dangerous than carbolic acid, or concentrated solutions of other metallic salts, the mineral acids, etc. The concentrated solutions could be colored by the addition of potassium permanganate, as proposed by the Committee on Disinfectants of the American Public Health Association, or by an aniline dye (blue) as had been practised by Dr. Sonderegger, the delegate from Switzerland.

Several members having referred to the omission of sulphur dioxide from the list of disinfectants, the delegate from the United States, speaking for the committee by request of Dr. Koch, explained this omission as follows:

While it is demonstrated by laboratory experiments that this gas in a tightly closed chamber, and especially in the presence of moisture, has a certain value as a disinfectant, yet the conditions of successful disinfection are so difficult to attain in practice that there can be no doubt that much of the so-called disinfection with this agent is a farce, and that the success often ascribed to sulphur fumigation is probably largely due to the subsequent free ventilation and general cleaning up which commonly follow such fumigations. Dr. Koch has shown that the escape of sulphur dioxide is extremely rapid from a chamber which has been closed more thoroughly than can commonly be accomplished in ordinary practice. On the other hand, the destruction of micrococci and bacilli without spores, requires long exposure to a considerable amount of this agent, while spores are not destroyed by it in the greatest possible concentration. Moreover, it has been shown by Koch, and by the speaker's more recent experiments, that the penetrating power of this agent is very slight, and that material protected by a single thickness of blanket, may escape disinfection when exposed for many hours in an atmosphere in which sulphur dioxide has been generated in large quantity.

It seems, therefore, so far as cholera is concerned, to be more rational to rely upon a thorough cleansing of surfaces, and the immersion of soiled articles in a disinfecting solution, or exposure to steam. For, the object is not to disinfect the atmosphere of an infected room, but its contents which have been soiled by the discharges of the sick, etc.

It is futile to think of disinfecting the atmosphere of the sick-room, for in a properly ventilated apartment this is constantly changing while the room is occupied, and when it is vacated can be replaced by fresh air in a few moments by opening doors and windows.

Upon motion of Sir Joseph Fayrer, the report of the Committee on Disinfectants was adopted *en bloc*, by a vote of 20 affirmative, to 1 negative (Turkey).

## NEWS ITEMS.

### CHICAGO.

(*From our Special Correspondent.*)

SANITARY CONDITION OF CHICAGO.—Typhoid fever is prevalent in Chicago. Dr. Oscar C. De Wolfe, Commissioner of Health, says that fifteen years ago typhoid fever was comparatively unknown in Cook County; on the other hand, malarial fevers of all types were common. Now, the hospital wards are gradually filling up with typhoid fever cases, while acute intermittent or remittent fevers are relatively seldom observed.

Dr. M. Maunheimer corroborated the testimony of Dr. De Wolfe.

It is difficult to estimate adequately the sanitary condition of the city. Professor James Nevins Hyde, M.D., in a recent editorial, alluded to the subject in the following vigorous terms:

"When a stranger visits the City of Chicago for the first time, his earliest request is to be shown the water-works and the stockyards. These are the features for which the town has established a reputation."

"The sacred singer of Israel once cried in a burst of poetic imagery, 'Moab is my wash-pot!' Chicago might well echo with the refrain, 'Lake Michigan is my wash-pot, my drinking-cup, and my chamber-pot!'"

"Her water-works are indeed great. They supply her with water from the lake fully and freely—in fact, as fully and as freely as she restores to it again the refuse of her corporate body. If there be any germ of disease in her excreta, any virus lurking in her animal refuse, she receives it again in part after it has been thrown off."

"Not content with emptying her own ejecta into the lake from which she drinks, Chicago pours into it also the drainings from her immense cattle-yards, and from the great slaughterhouses, where the animals brought to her doors from the whole of the Northwest, are cut up and packed for the consumption of the world."

The South Fork is that fork of the South Branch of the Chicago River, which starts at Thirty-ninth and Halstead streets, and empties into the South Branch in Bridgeport, near the pumping works. "The foulest, filthiest, deadliest section lies just north of the Union

Stockyards, and is about one mile in length, from one hundred to two hundred feet in width, and from nine to eighteen feet deep." (Daily paper.)

Professor Hyde goes on to say:

"The Witches' Cauldron here correctly described, exhales its pestilential breath about two miles from the spot where some of the wealthy 'packers' of this city have erected palaces which a king might envy, their costly stones overlooking the fashionable thoroughfare where youth, beauty, premature age, and folly drive their showy equipages in a splendid ignorance of what is floating beyond!" Nevertheless, the authorities insist that Chicago is in a better sanitary condition than any other city in the world. Mark Twain says of Chicago people, "That they are cultivated and charming, but are inclined to underestimate themselves."

## PROVIDENCE.

(*From our Special Correspondent.*)

A NEW MEDICO-LEGAL SOCIETY IN RHODE ISLAND.—Fifteen of the twenty-four medical examiners of the State of Rhode Island, assembled in Providence on the 11th inst. to lay the foundation for a State Medico-Legal Society. After some discussion a temporary organization was effected with Dr. William H. Palmer, of Providence, as President, and Dr. F. B. Fuller, of Pawtucket, as Clerk. A committee consisting of Drs. Garvin, of Lansdale, Morgan, of Westerly, Fuller, of Pawtucket, and Wilcox and Palmer, of Providence, was appointed to arrange for a permanent organization, and report at the next meeting.

## MONTREAL.

(*From our Special Correspondent.*)

HOSPITAL MEDICAL APPOINTMENTS.—At a meeting of the Governors of the Montreal General Hospital, for the election of officers, held May 21st, Dr. Richard L. MacDonnell was elected to the vacancy in the staff of physicians caused by the resignation of Dr. Osler. Dr. Alexander Blackader and Dr. F. W. Campbell were appointed Assistant Physicians, and Dr. James Bell, Assistant Surgeon. At the same meeting Dr. William Gardener was appointed Gynecologist, and Dr. George W. Major, Laryngologist to the Hospital. These two gentlemen are the first to hold these appointments.

HEALTH OFFICER.—No medical officer of health has yet been appointed, the City Council having refused to accept the nomination of the Advisory Medical Board. The ex-vaccination physician has been appointed temporarily to the position, but has no chance of holding the appointment permanently.

The city is still without public vaccinators, and no attempt is being made to supply the need. Smallpox is yet amongst us, there being thirteen cases in the Smallpox Hospital, and several in the eastern part of the city.

URIC ACID CALCULUS OF ENORMOUS SIZE.—We desire to place on record some particulars of one of the most remarkable calculi that the records of surgery furnish. It was removed by the high operation (Petersen's modification), on Wednesday morning, by Sir Henry Thompson, from a man aged sixty-two. The stone was of an oval form, of pure uric acid, without any phosphatic incrustation whatever. It weighs 14 oz. avoirdupois (405 grammes), and measures 4½ in. long, 3¼ in. wide, and 2⅛ in. thick. The operation was rapid, and performed without difficulty; and the patient's present condition is unusually good and promising.—*The Lancet*, May 2, 1885.

## NOTES AND QUERIES.

TREATMENT OF MENTAL DISORDERS IN THE EARLY STAGE.

*To the Editor of* THE MEDICAL NEWS.

SIR: Allow me to call attention to a printer's mistake in the report of the Committee on Lunacy and Idiocy in the proceedings of the State Medical Society.

On page 644, second column, June 6, 1885, and on the top line, it reads, "The use of stimulants should be ordered in asthenic cases." Now, the report was just the other way, as the next sentence of the report will show. If the word "avoided" had been used, it would have been correct. The argument of the report was in favor of general toxic treatment with iron and a good diet, avoiding all kinds of stimulants on the ground that their effect was only temporary and likely to lead to the formation of an injurious practice afterwards.

Very truly yours,

JOHN CURWEN.

June 8, 1885.

## OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 2 TO JUNE 15, 1885.

HORTON, S. M., *Major and Surgeon.*—Ordered for duty as Post Surgeon at Fort Riley, Kansas.—*S. O. 78, Department of Missouri*, June 1, 1885.

CLEARY, P. J. A., *Major and Surgeon.*—Ordered for duty as Post Surgeon at Fort Lyon, Colorado.—*S. O. 78, Department of Missouri*, June 1, 1885.

PORTER, JOS. Y., *Captain and Assistant Surgeon.*—Granted leave of absence for six months on account of disability—*S. O. 126, A. G. O.*, June 3, 1885.

RICHARD, CHARLES, *Captain and Assistant Surgeon.*—Granted leave of absence for three days.—*S. O. 128, A. G. O.*, June 5, 1885.

ROBERTSON, R. L., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 123, A. G. O.*, May 29, 1885.

B. E. FRYER, *Major and Surgeon.*—Ordinary leave of absence extended six months, from July 1, 1885, on surgeon's certificate of disability.—*S. O. 129, A. G. O.*, June 6, 1885.

The order directing Major P. J. A Cleary, Surgeon U. S. A., to change station from Fort Union, New Mexico, to Fort Lyon, Colorado, is revoked.—*S. O. 81, Department of Missouri*, June 8, 1885.

C. N. B. MACAULEY, *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Lisseton, D. T., and ordered for duty at Fort Abraham Lincoln, Dakota Territory.—*S. O. 61, Department of Dakota*, June 5, 1885.

## OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING JUNE 13, 1885.

WYMAN, WALTER, *Surgeon.*—To inspect unserviceable property at Baltimore, Md., June 6, 1885.

CARTER, H R., *Passed Assistant Surgeon.*—To inspect unserviceable property at San Francisco, Cal., June 6, 1885.

BATTLE, K. P., *Assistant Surgeon.*—To inspect unserviceable property at New Orleans, La, June 6, 1885.

WYMAN, WALTER, *Surgeon.*—To proceed to New York City and assume charge of the service, relieving Surgeon Sawtelle, June 8, 1885.

BANKS, C. E., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, June 12, 1885.